DEPARTMENT OF AGRICULTURE.
SPECIAL REPORT—No. 33.

REPORT

OF

ANALYTICAL AND OTHER WORK DONE

ON

SORGHUM AND CORNSTALKS,

BY THE

CHEMICAL DIVISION

OF

THE DEPARTMENT.

JULY TO DECEMBER, 1880.

UNDER DIRECTION OF
Hon. W. G. Le DUC, Commissioner,
BY
PETER COLLIER, Chemist.

WASHINGTON:
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1881.

ANALYTICAL WORK ON SORGHUM AND CORNSTALKS.

Hon. Wm. G. Le Duc,
Commissioner of Agriculture:

Sir: I have the honor to submit the following results of the work done in the laboratory by the Chemical Division during the past season.

The object of this work has been to ascertain as many facts as possible in relation to the development and actual composition of the stalks and juices of the different varieties of sorghum and corn which can be successfully grown in the United States. It is fully believed that a careful study of the life history of these plants will do more than any one thing, aside from the actual separation of the sugar itself, to demonstrate the practicability of sugar production from sorghum, and probably from cornstalks.

Further, it is certain that careful experiments in the laboratory are very valuable in directing and modifying the actual processes of manufacture; the more intimate our knowledge of the juice itself the more prospect is there for success in manufacturing operations.

The general drift of the work during the past season has been in the following direction, viz: the demonstration of the period at which the juice of each particular variety of sorghum or corn contained the most crystallizable sugar which could be profitably separated.

Incidentally many questions have presented themselves which have a more or less direct bearing on the utilization of the, at present, waste products, such as the skimmings, bagasse, the residual molasses, and the seeds and leaves. The perfection and simplification of analytical methods has been another class of work which has engaged considerable attention, and has been rewarded with satisfactory results.

For the discussion of these and numerous other questions which have arisen in this connection, we beg to refer to the following pages.

ORIGINAL DATA.

In order that the work done this year may be permanently recorded in such shape as to be of future value, it has seemed best to publish the original figures exactly in the form in which they were copied from the laboratory note-books of the various assistants engaged in the work. All averages which appear later were drawn from these results, and no figures have been added or withheld.

These plates represent 3,601 analyses of 38 varieties of sorghum, 11 varieties of cornstalks, and a few outside samples of sugar and sirup; nearly all of these analyses were made between July 12 and December 17, 1880.

For the purpose of facilitating comparison, the canes have been arranged in the order shown by the following list, and this order, and the numbers corresponding with each cane, have not been departed from.

List of names and immediate sources of the seed of the different varieties of Sorghum and Maize experimented upon by this department during 1880.

SORGHUM.

Reference number.	Name of variety.	Source of seed.
1	Early Amber	D. Smith, Arlington, Va.
2	do	Plant Seed Company, Saint Louis, Mo.
3	Early Golden	A. B. Swain, Elysian, Minn.
4	Golden Sirup	W. H. Lytle, Yellow Springs, Ohio.
5	White Liberian	D. Smith, Arlington, Va.
6	Early Amber	S. E. Evans, Monroe, Kans.
7	Black Top	D. W. Aiken, Cokesbury, S. C.
8	African	W. E. Parks, Carlisle, Ky.
9	White Mammoth	Amos Carpenter, Carpenter's Store P. O, Mo.
10	Oomseeana	Blymyer & Co., Cincinnati, Ohio.
11	Regular Sorgho	Do.
12	Hybrid	E. Link, Greenville, Tenn.
13	Sugar Cane	J. W. Barger, Lovilia, Iowa.
14	Oomseeana	D. W. Aiken, Cokesbury, S. C.
15	Neeazana	W. H. Lytle, Yellow Springs, Ohio.
16	Goose Neck	P. P. Ramsey, Belgrade, Mo.
17	Early Orange	I. A. Hedges, Saint Louis, Mo.
18	Neeazana	Blymyer & Co., Cincinnati, Ohio.
19	New Variety	E. Link, Greenville, Tenn.
20	Chinese	D. Smith, Arlington, Va.
21	Wolf Tail	E. Link, Greenville, Tenn.
22	Gray Top	H. C. Sealey, Columbia, Tenn.
23	Liberian	Blymyer & Co., Cincinnati, Ohio.
24	do	W. H. Lytle, Yellow Springs, Ohio.
25	Oomseeana	W. I. Mayes & Co., Sweet Water, Tenn.
26	Sumac	W. Pope, ——, Ala.
27	Mastodon	D. W. Aiken, Cokesbury, S. C.
28	Imphee	Do.
29	New Variety	J. W. H. Salle, Strafford, Mo.
30	Sumac	J. H. Wighton, Mount Olive, Ala.
31	Honduras	Arsenal, Washington, D. C.
32	Honey Cane	J. H. Clark, Pleasant Hill, La.
33	Sprangle Top	W. Pope, ——, Ala.
34	Honduras	E. Link, Greenville, Tenn.
35	Honey Top or Texas Cane	——, Brussels, Mo.
36	Honduras	L. Brande, Mayersville, Tex.
37	Sugar Cane	C. E. Miller, Effingham, Ill.
38	Hybrid	J. C. Moore, San Diego, Cal.

MAIZE, ETC.

39	Rice or Egyptian Corn	Root & Hollingsworth, Kinsley Court-House, Kans.
40	Doura Corn	——, S. C.
41	Stowell's Evergreen	W. R. Shelmire, Chester, Pa.
42	Egyptian Sugar	Do.
43	Lindsay's Horse Tooth	Lindsay, Portsmouth, Va.
44	White Flat Dent	Market, Washington, D. C.
45	Improved Prolific	J. M. Thorburn, New York, N. Y.
46	White Dent	T. L. Jones, Warrenton, Va.
47	Sanford	F. B. Hathaway, Milton, Vt.
48	Mammoth Dent	M. J. Varney, North Collins, N. Y.
49	Early Minnesota Dent	Do.

DISTINGUISHING MARKS OF STAGES OF GROWTH OR DEVELOPMENT USED IN THE ACCOMPANYING WORK.

In order to make as close a record as possible of the development of the plants at the time they were taken from the field for examination,

a series of numbers and letters were made use of, which indicated the stages of advancement in growth. Determination of the stages after No. 14 was more difficult than that of the preceding ones, and depended upon the increasing hardness of the seed. These signs and their significations are as follows:

SORGHUM.

Stage.	Development of plant.
E	About one week before opening of panicle.
F	Immediately before opening of panicle.
1	Panicle just appearing.
2	Panicle two-thirds out.
3	Panicle entirely out; no stem above upper leaf.
4	Panicle beginning to bloom on top.
5	Flowers all out; stamens beginning to drop.
6	Seed well set.
7	Seed entering the milk state.
8	Seed becoming doughy.
9	Seed doughy, becoming dry.
10	Seed almost dry, easily crushed.
11	Seed dry, easily split.
12	Seed split with difficulty.
13	Seed split with more difficulty.
14	Seed split with still more difficulty.
15	Seed harder.
16	Seed still harder.
17	Seed still harder.
18	Seed still harder.

MAIZE.

E	Ear two weeks younger than roasting condition.
F	Ear one week younger than roasting condition.
1	Ear ready for roasting.
2	One week after roasting ears were plucked.
3	Two weeks after roasting ears were plucked.
4	Three weeks after roasting ears were plucked.
5	Four weeks after roasting ears were plucked.
6	Five weeks after roasting ears were plucked.
7	Six weeks after roasting ears were plucked.
8	Seven weeks after roasting ears were plucked.
X	Ears still remaining on stalk, ripe.
Y	Ears still remaining on stalk, more ripe.
Z	Ears still remaining on stalk, still more ripe.

SYNOPTICAL TABLE OF THE VARIETIES OF SORGHUM CULTIVATED AT THE DEPARTMENT OF AGRICULTURE DURING THE SUMMER OF 1880.

The following table cannot claim any great degree of botanical accuracy, as it has been worked out from single dry heads and without a careful comparison of the varieties growing in the field. It is believed, however, that it will be of great assistance in aiding the practical farmer to distinguish, with the aid of the illustrations, whatever variety he may have on hand.

The large number of hybrids which have been produced between the African or "Imphee," and the Chinese or "Honduras" species, render it very difficult to characterize them by mere verbal descriptions; but they can be recognized as a class by their uniting the characteristics of both species.

THE RIPE GRAIN.

I. Longer than the glumes (husks).
(*a.*) Panicle or head dense.
1. Glumes black.
α Inconspicuous.
Liberian or *Imphee.*
Head short, 6 to 7 inches long, dense, cylindrical, obtuse; general color dark brown.
Glumes small, obtuse, black shining; outer one hairy on the margin.
Seed smallest of all varieties, round, obtuse, tapering to the base; hilum or point of attachment of a lighter color and prominent.
3. Conspicuous.
Seeds brown; effect of head black. (Grain at times hardly longer than the glumes.)
Oomseeana.
Head slender, erect, 8 to 9 inches long; branches closely appressed, but not dense.
Glumes black, pointed; outer one keeled smooth and open.
Seed deep brown, and visible between the open glumes; plane convex, acute at both ends.
Black Top.
Head larger and broader than the preceding, blacker and more dense; seed lighter.
Bear Tail.
Denser head and longer glumes than in preceding, resembling in some respects a compacted Early Amber.
Iowa Red Top.
An Oomseeana cane, with large, prominent seeds and smaller glumes.
Seeds white.
White Mammoth.
Head very dense, expanding toward the flattened top.
Glumes shining black, prominent.
Seed white, large, flattened; hilum inconspicuous.
2. Glumes light-red brown.
Seed white.
White African.
Head. (No specimen at hand.)
Glumes large, light-red, shining.
Seed large, white.
Seed yellowish brown.
Neeazana.
Head 5 to 8 inches long, dense, cylindrical.
Glumes pointed, somewhat hairy; outer one gray; inner one black, smaller, and inconspicuous.
Seed long, flat; hilum inconspicuous.
Synon. White Imphee, '65 report, Early Orange.
New Variety (Salle), similar to Neeazana, but both glumes are at times light colored and hairy.
Wolf Tail.
Head 9 to 10 inches long, slender, dense.
Glumes almost white, shining, somewhat downy.
Seed shorter than in Neeazana, long, round; hilum slightly flattened.
Gray Top.
Head similar to Neeazana, but glumes brown, shining, obtuse, short.
Seed short, long, large, prominent, round; hilum only slightly flattened; distinguished by its brown glumes and the prominence of the large round seeds in the head.
3. Glumes gray.
Rice, or Egyptian Corn.
Head heavy, bending the culm, dense, obtuse, cylindrical.
Glumes gray, prominent, wooly, persistent.
Seed large, flat, white, round in outline, width greater than the length; prominent in the head, and easily shaken out.

I. Longer than the glumes (husks)—Continued.
(*b.*) Panicle not dense.
Glumes black.
Regular Sorgho.
Head loose, 10 to 12 inches long.
Glumes black, shining, open, displaying the seeds.
Seeds large, flat, obtuse.
Hybrid Sorghum.
Hybrid of E. Link.
Oomseeana of Blymyer.
New Variety of E. Link.
These are hybrids of the Liberian or Imphee varieties, with the Honduras or Chinese varieties, and bear the characteristics of both races. Here, also, might be mentioned—
African of Parks, of Kentucky.
Hybrid of Moore.
II. Equal to the glumes.
(*a.*) Glumes closed or nearly so.
Red and palet awned.
Honduras or True Chinese.
Head, 1 foot long, thin, loose, spreading, nodding.
Glumes reddish brown, shining, somewhat hairy, acute at both ends; inner one keeled.
Seed long, very acute at the base, obtuse at the apex; plane convex; hilum conspicuous, with a prominence at the base and a round mark at the upper edge.
Synon. Mastodon, Honey Cane, Sprangle Top, Honey Top. These all vary slightly so as to be distinguished in the field, but not, however, by description.
Deep chocolate palet awned.
Hybrid of Wallis, Collin County, Texas.
Similar to the Honduras, except in the deep brown glumes and more compact head, showing its Imphee affinities.
(*b.*) Glumes open.
Under this head might be sought Regular Sorgho and Black Top, classed as having the grain longer than the glumes.
III. Shorter than the glumes.
(*a.*) Glumes black.
Culm erect.
Early Amber.
Head slender, erect; branches appressed, pointed, 9 to 10 inches long.
Glumes large, smooth, shining, acute at both ends, concealing the seed or open, flattened on both sides.
Seeds long, obtuse, light colored; hilum large, with a prominence in the center.
Synon. Early Golden, Golden Sirup.
Culm erect, or often bent with heavy heads.
Goose Neck.
Head inverted on the bent culm; somewhat loose, 8 inches long.
Glumes shining, downy at the tips, flattened.
Seeds smaller than Amber, long, acute at the base, obtuse at the apex, somewhat flattened.
(*b.*) Glumes purplish.
White Liberian.
Head slender, erect, or goose-necked; branches appressed, pointed.
Glumes large, smooth, shining, acute at both ends, often not covering the seed. Infertile ones often very prominent and purplish-gray.
Seed large, long, and similar to the Amber, but hilum more prominent.
Synon. Sugar Cane (Barger).

THE ANALYTICAL PROCESSES FOR THE EXAMINATION OF THE CANES.

One or more stalks of the variety of sorghum to be examined were selected in the experimental field, and after recording the stage of development and general appearance of the canes, a number was affixed by which they could be distinguished during the remainder of the ex-

amination. After being cut and brought to the laboratory, the length of the stalk from butt to the extremity of the head, its entire weight and diameter at the butt were taken. It was then stripped and topped, as in the usual way of preparation for the mill, and again weighed. The "stripped stalk" was then expressed in a three-roll mill, and the juice collected in a weighed flask and weighed to determine "per cent. of juice" in the stripped stalk. The specific gravity was determined with a piknometer, after an interval of an hour to allow the escape of air bubbles and the subsidence of suspended starch. For the determination of the "total solids" in the juice 2^{cm^3}. were accurately measured into a weighed porcelain dish 6 to 7^{cm}. wide and 1.5 to 2^{cm}. deep, the bottom of which was covered with coarse sand to a depth of $.75^{cm}$. to insure complete desiccation. After twelve to fourteen hours' drying at 85° to 90° C., there was no further loss of water. The weight of the residue in grams divided by twice the specific gravity gave the per cent. of "total solids."

For the determination of *glucose and sucrose*, 100^{cm^3}. of the juice were taken and defecated by the addition of 25^{cm^3}. of solution of basic acetate of lead and water. The filtrate from the lead precipitate, which was perfectly clear, was in many instances polarized and then devoted to the methods of volumetric analysis. Owing to the degree of dilution, every 10^{cm^3}. of filtrate represented 8^{cm^3}. of juice.

For the determination of glucose 10^{cm^3}. of the filtrate were taken; for sucrose, 5^{cm^3}. The portion for glucose was diluted with about 50 to 75^{cm^3}. of water and about the same amount of Fehling's solution added. The porcelain dish containing the whole was placed upon a water bath kept at such a temperature by steam that the liquid in the dish rose to about 75° C., but no higher. After an interval of thirty minutes the dish was removed and allowed to cool. The portion for sucrose was diluted with about 100^{cm^3}. of water, 5^{cm^3}. of hydrochloric acid (sp. gr. 1.05) added, and the mixture heated in a porcelain dish on a steam bath for a half hour, the temperature not rising above 90° C. The inversion being complete, an excess of Fehling's solution was added, depending in amount on the maturity of the cane; and the liquid allowed to remain thirty minutes longer on the bath, after which it was removed. When the suboxide of copper had completely settled, in the case of both sucrose and glucose, the supernatant liquid was decanted into a beaker placed in front of each dish, and hot water was poured over the suboxide. This process was repeated, pouring the first liquid decanted into a second beaker, and so on until it could be poured away free from any oxide, and the original dish was nearly free from alkali. All the wash waters were then passed in order through a filter, taking care not to bring more of the suboxide upon the paper than was necessary. The suboxide on the filter and in the beakers was dissolved in an acid solution of ferric sulphate, free from nitric acid and ferrous salt, or more conveniently in an acid solution of ammonia ferric alum (which is more easily obtained free from impurities), and poured upon the suboxide in the original dish. All the copper suboxide being dissolved, it is brought into a liter flask, diluted with water to 500^{cm^3}. and acidified strongly with sulphuric acid. It is then ready to be titrated in the usual manner for the amount of reduced iron, the number of $^{cm^3}$. of permanganate used giving easily the weight of glucose represented by the suboxide of copper, as shown in our report for 1879, p. 66.

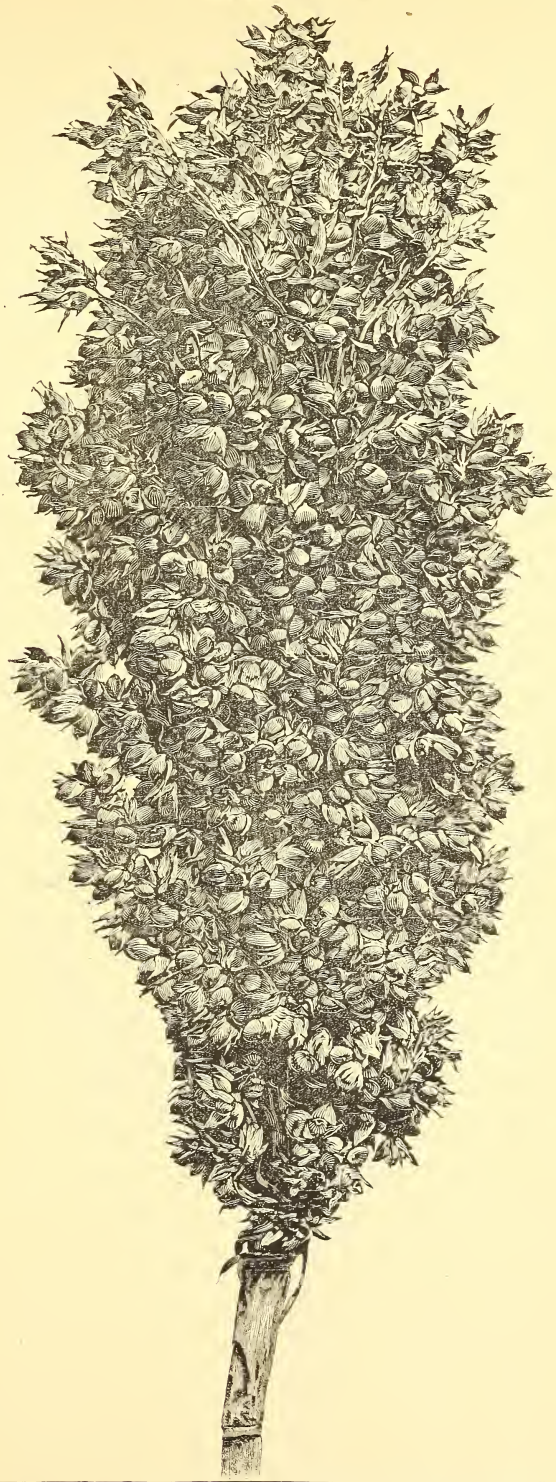
In order to determine what errors there may have been in estimating glucose and sucrose by this method, the following experiments were

Marx del.

LIBERIAN.

Synonyms: IMPHEE, SUMAC, (CHINESE CANE).

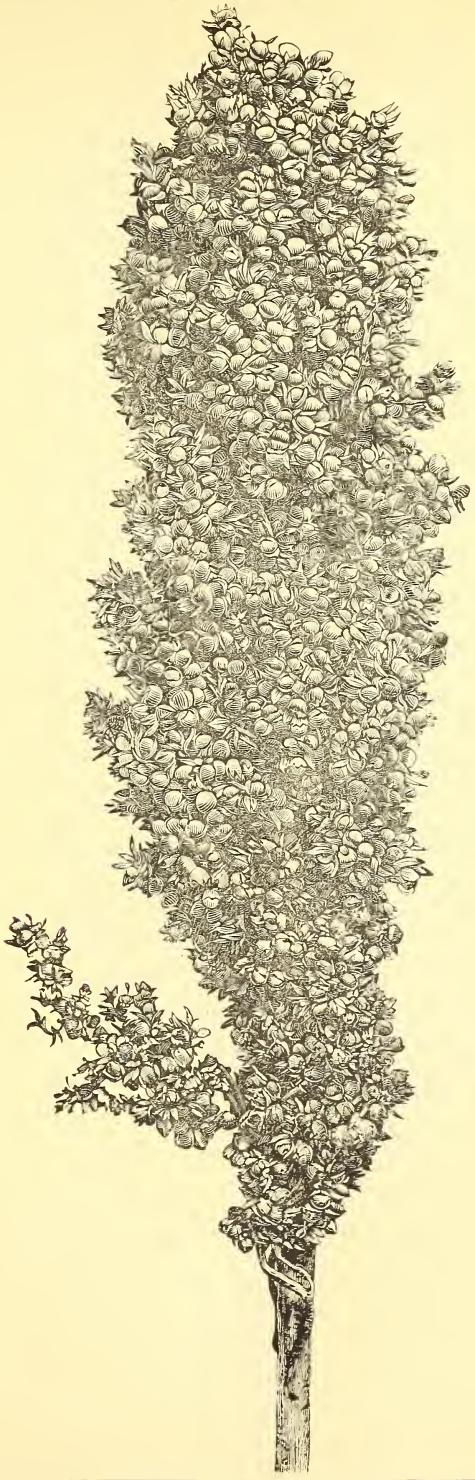
[Grown on the Department grounds during the season of 1879.]



H.H. NICHOLS.

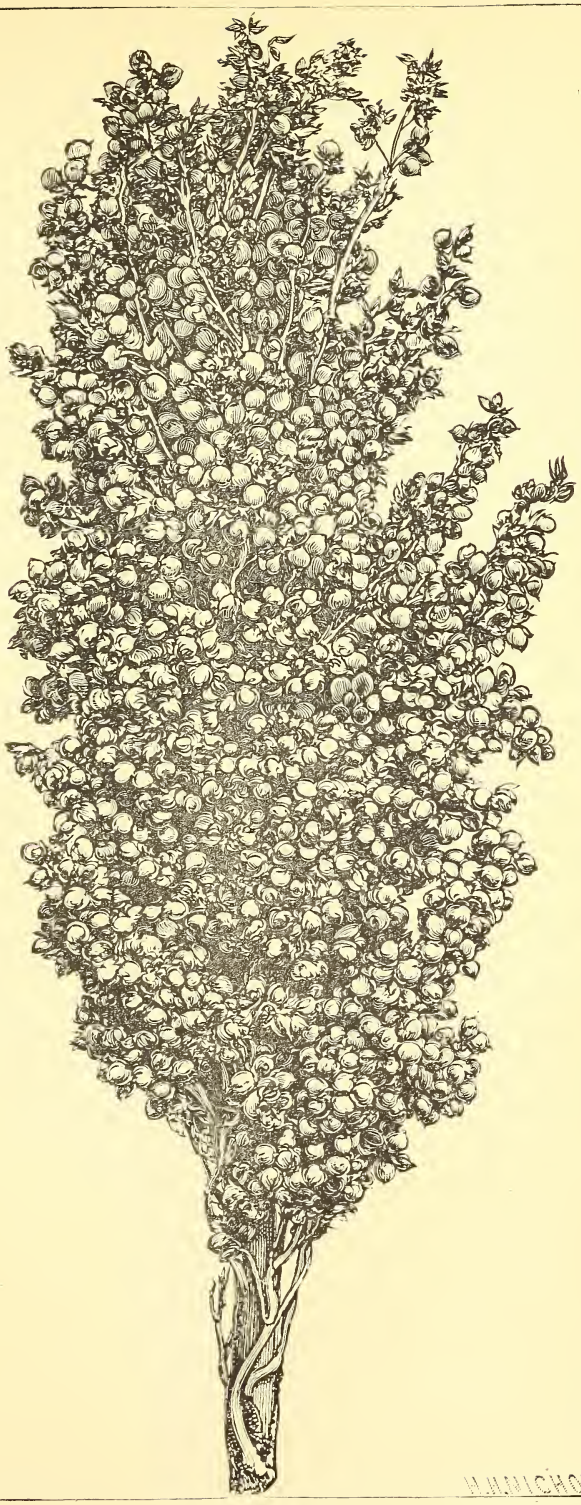
NEEAZANA.

[Grown on the Department grounds during the season of 1880.]



WOLF TAIL.

[Grown on the Department grounds during the season of 1880.]

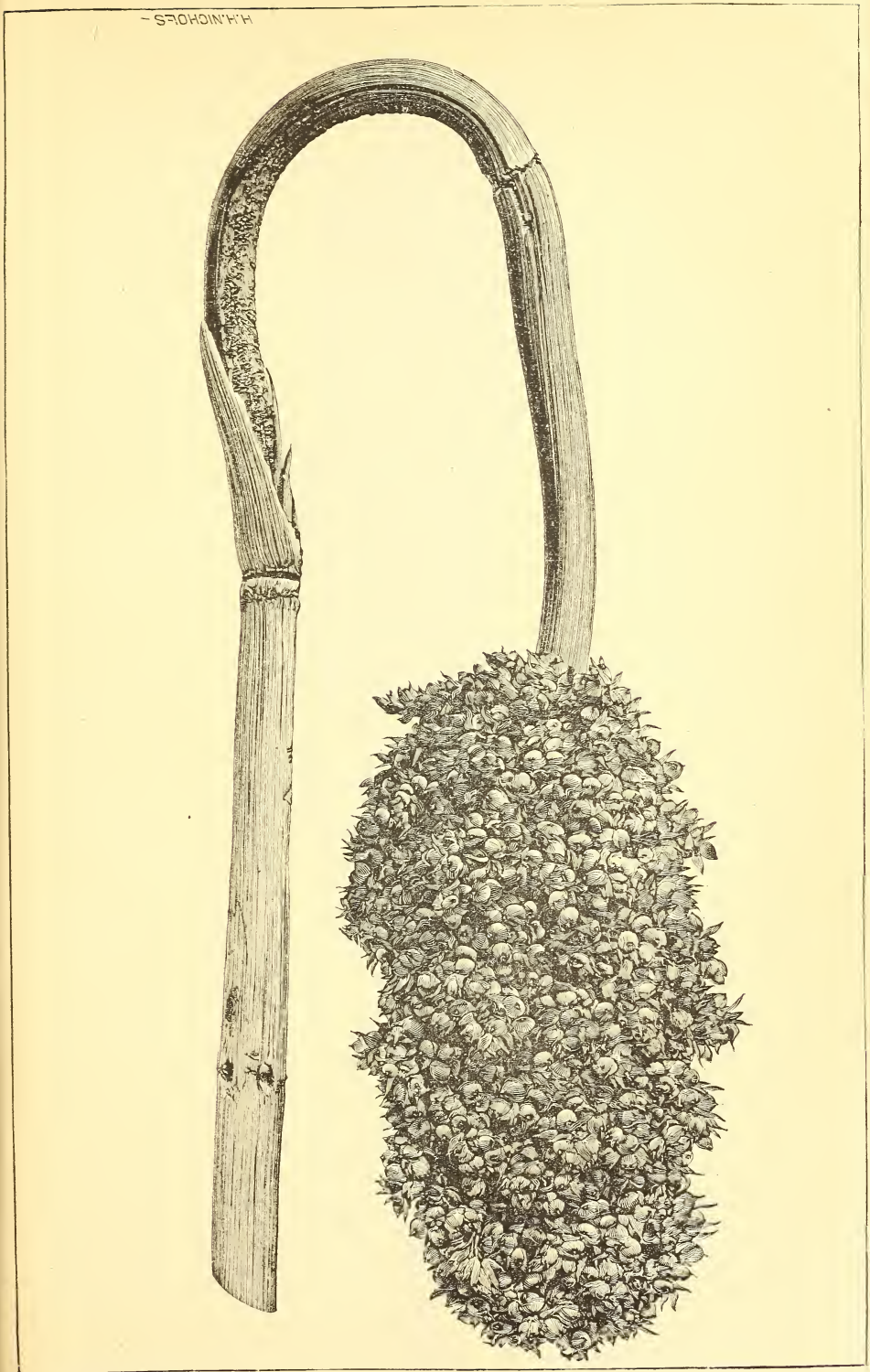


GRAY TOP.

[Grown on the Department grounds during the season of 1880.]

WHITE MAMMOTH.

[Grown on the Department grounds during the season of 1880.]



RICE, OR EGYPTIAN CORN.

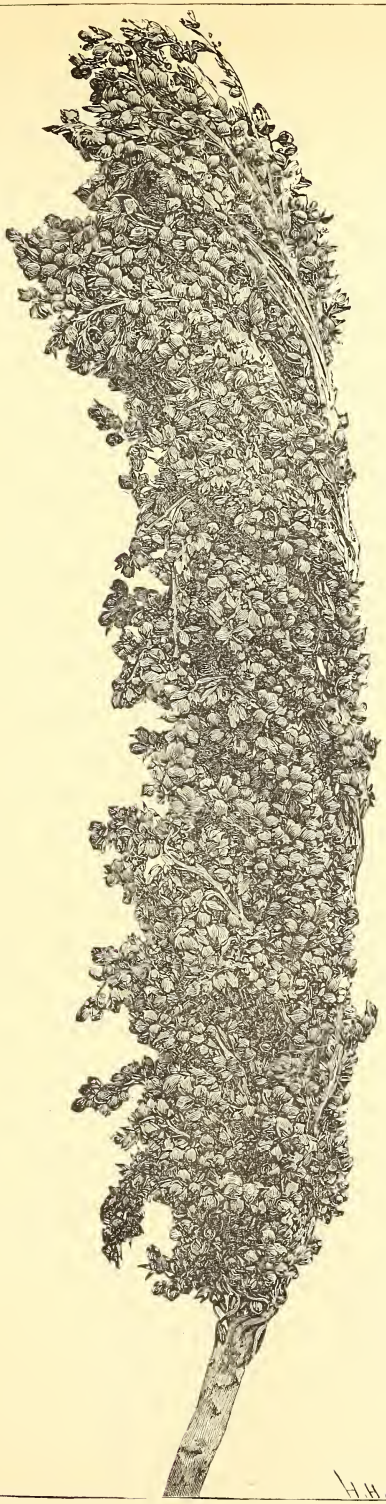
[Grown on the Department grounds during the season of 1880.]

OOMSEEANA.

[Grown on the Department grounds during the season of 1880.]

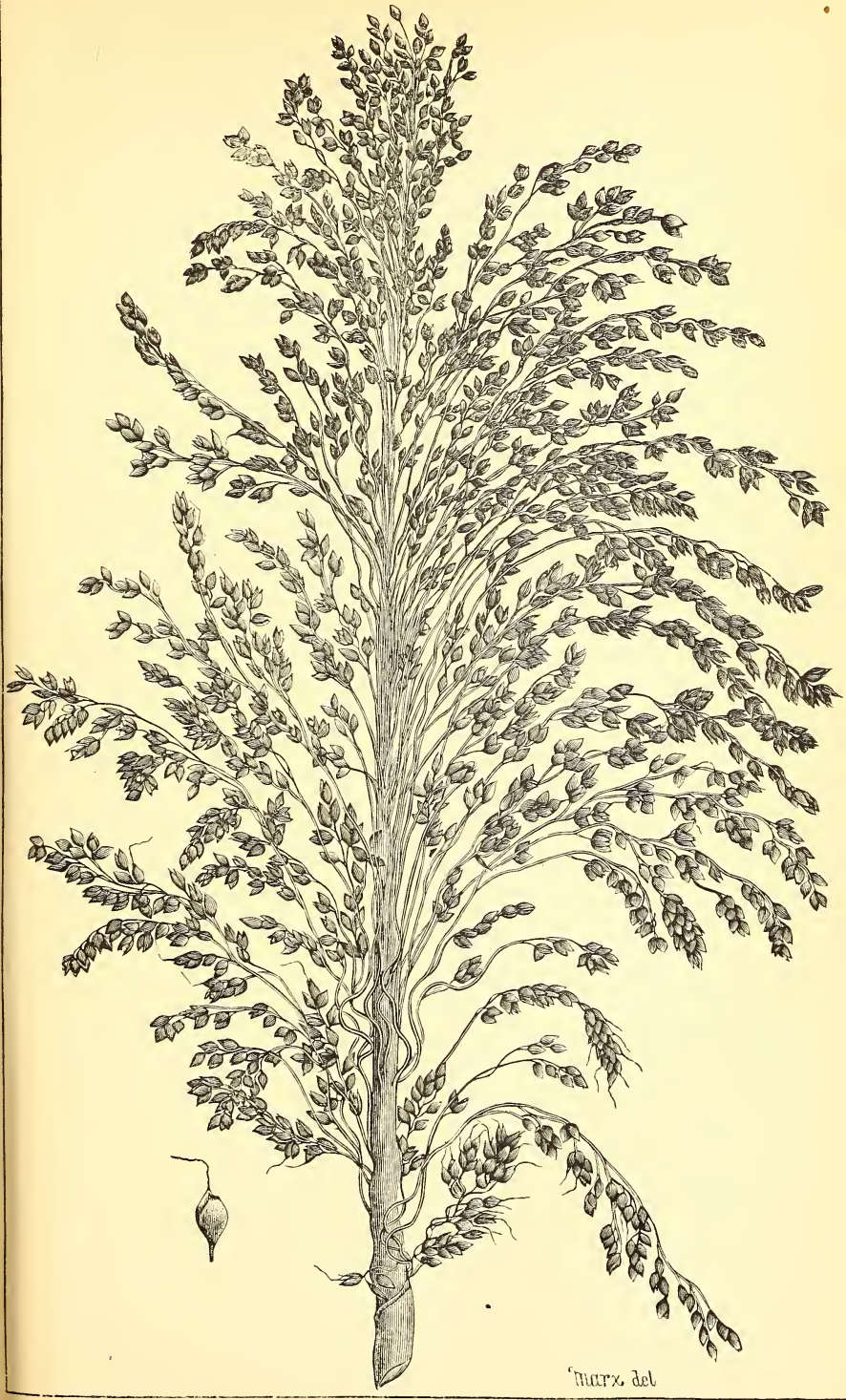
BLACK TOP.

[Grown on the Department grounds during the season of 1880.]



HYBRID, ORIGINATED BY E. LINK.

[Grown on the Department grounds during the season of 1880.]



HONDURAS.

Synonymes: MASTODON, SPRANGLE-TOP, HONEY CANE.

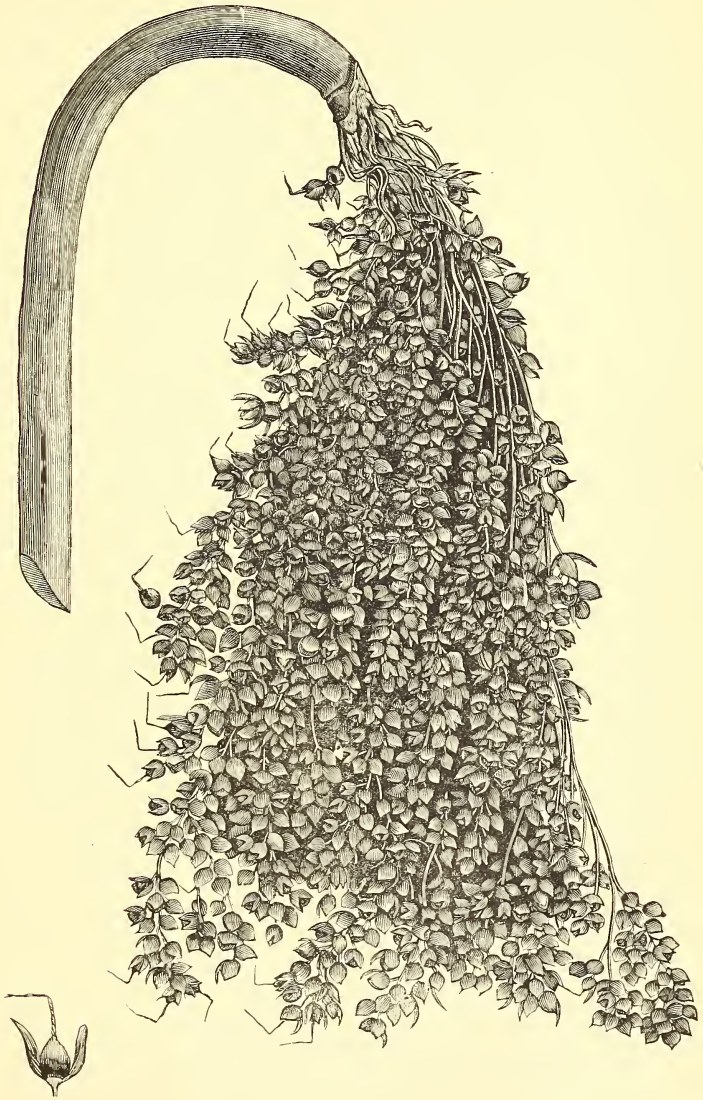
[Grown on the Department grounds during the season of 1879.]

EARLY AMBER.

[Grown on the Department grounds during the season of 1879.]

GOOSE NECK.

[Grown on the Department grounds during the season of 1880.]



Marx del.

WHITE LIBERIAN.

[Grown on the Department grounds during the season of 1879.]

carried out. Every portion of Fehling solution used was heated by itself in the steam bath for an hour to determine if it remained unreduced in absence of sugar. In all cases it was quite unchanged. Several solutions of dry granulated sugar containing about .10 per cent. of impurities were made of such a strength that every 5^{cm^3}. contained .5000 gram of pure sucrose, or, on inversion, .5263 of invert sugar.

Of solution No. 1, four portions were measured out of 5^{cm^3}. each and submitted to the usual course of analyses, with the following result:

Experiment.	Titration.	Glucose found.	Glucose used.	Per cent. found.
No. 1	104.2	.5210	.5263	98.99
No. 2	103.4	.5170	.5263	98.24
No. 3	104.4	.5220	.5263	99.18
No. 4	104.5	.5225	.5263	99.28
Average				98.93

The specific gravity was found by the piknometer to be 1.034. The solution contained, therefore, 9.67 per cent. of sugar. By titration we find 9.57 per cent. of sugar, and polarization of the solution gave 9.63 per cent. of sucrose.

Of the solution No. 2, nine portions were taken of 5^{cm^3}. each, to six of which (Nos. 1–6) 5^{cm^3}. of the usual dilute acid were added, and to the remaining three, 10^{cm^3}.; otherwise the usual course of analysis was pursued. The entire lot was carried through simultaneously on the same steam bath. The results were as follows:

Experiment.	C^{m^3}. of permanganate.	Glucose found.	Per cent of original.	Per cent. sucrose in solution.
No. 1	104.5	.5225	99.28	9.60
No. 2	105.3	.5265	100.10	9.67
No. 3	106.6	.5330	101.26	9.79
No. 4	108.3	.5415	102.88	9.95
No. 5	107.4	.5370	102.02	9.86
No. 6	108.1	.5405	102.70	9.93
No. 7	104.6	.5230	99.38	9.61
No. 8	104.4	.5220	99.18	9.59
No. 9	105.2	.5260	99.94	9.66
Average			100.74	9.74

The specific gravity was found to be 1.034 and the per cent. of sugar in the solution was therefore: By calculation, 9.67; by titration, 9.74. An estimation of total solids gave 9.70 per cent. The addition of the larger amount of acid apparently had the effect of lowering the per cent. of sucrose found. In no case was the error in the final result sufficiently large to be of account in work on such a large scale.

Fifteen portions of 5^{cm^3}. each were taken from solution No. 3. Its

specific gravity was 1.035, and the per cent. of sucrose 9.66. Submitted to analysis in the usual way the results were:

Experiment.	C^{mg}. of permanganate at .005 glucose.	Glucose found.	Sucrose found.	Per cent. of sucrose.
No. 1	107.0	.5350	.5082	9.82
No. 2	108.0	.5400	.5130	9.91
No. 3	106.0	.5300	.5035	9.73
No. 4	106.0	.5300	.5035	9.73
No. 5	107.0	.5350	.5082	9.82
No. 6	106.0	.5300	.5035	9.73
No. 7	108.7	.5435	.5163	9.98
No. 8	106.8	.5340	.5073	9.80
No. 9	106.3	.5315	.5049	9.76
No. 10	106.5	.5325	.5059	9.78
No. 11	106.8	.5340	.5073	9.80
No. 12	106.3	.5315	.5049	9.76
No. 13	106.0	.5300	.5035	9.73
No. 14	104.9	.5245	.4983	9.63
No. 15	105.3	.5265	.5002	9.66
Average				9.77

By calculation	9.66
By titration	9.77

The results of thirty determinations may be stated as follows:

	Per cent.
Sugar solution containing	9.67
No. 1. Four determinations, by titration (average)	9.57
No. 2. Nine determinations, by titration (average)	9.74
No. 3. Fifteen determinations, by titration (average)	9.77
No. 1. One polarization	9.63
No. 2. One determination of total solids	9.70
The lowest result was	9.50
The highest result was	9.98

It may be assumed, therefore, that *the greatest error is not more than minus one-tenth or plus three-tenths of one per cent.*, which, in the work under hand, cannot be considered excessive.

In order to have a check on the process when applied to juices as well as pure sugar solutions, polarizations were made in a large number of cases. Where the percentage of glucose or of invert sugar was small, the agreement was close; but in the presence of these sugars the results naturally fell below those by titration, the latter being more correct. The following table gives a series of observations:

Corn juices.				Sorghum juices.							
Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.	Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.	Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.
1937	10.60	10.41	.....	2006	13.56	13.61	2.16	2039	12.66	12.80	2.50
38	3.62	3.58	.....	8	14.24	14.48	1.35	40	12.94	13.21	2.09
39	6.74	6.64	.....	9	14.86	14.92	.84	41	12.28	12.86	2.44
41	6.81	6.72	.....	*10	14.76	15.49	.59	42	12.93	13.29	2.44
42	7.03	7.09	.....	14	10.84	10.56	1.44	43	12.86	12.81	1.23
43	7.48	7.62	.....	15	10.20	10.00	1.41	*44	13.25	11.65	1.76
44	3.02	3.16	.....	16	10.20	10.61	1.47	50	12.96	13.21	1.15
45	11.54	11.72	.....	18	10.73	11.22	1.64	51	13.65	14.09	1.75
*46	4.91	5.85	.....	*22	4.48	6.39	2.16	52	13.49	13.37	1.96
*47	1.56	2.71	.....	24	12.88	13.00	1.67	*53	12.51	14.01	2.19

Corn juices.				Sorghum juices.							
Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.	Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.	Number of analysis.	Sucrose by polariscope.	Sucrose by titration.	Glucose.
*1948	3.28	1.62	.....	2027	11.96	11.76	1.95	2054	12.93	13.13	2.16
*52	11.80	8.70	.....	28	14.21	13.62	1.74	55	12.43	12.60	2.39
53	9.93	9.81	.....	29	13.32	12.79	2.13	56	12.08	11.55	2.39
54	9.48	9.11	.....	31	13.20	13.10	1.23	57	12.80	13.02	2.07
55	8.75	8.56	.....	32	11.36	11.74	1.27	58	12.49	12.95	2.23
56	6.04	5.89	.....	33	13.36	13.54	.97	59	13.05	13.35	1.97
57	9.46	9.49	.....	34	13.90	14.05	1.09	60	12.58	12.81	2.24
58	7.83	7.29	.....	35	12.13	12.09	1.92	61	13.60	13.60	2.06
79	6.41	6.74	4.57	36	12.56	12.52	2.18	62	12.13	12.13	1.86
80	5.84	6.19	4.56	37	12.46	12.77	2.01	64	11.98	12.72	2.59
81	6.66	5.97	1.92	38	12.55	12.91	2.34	65	13.26	13.88	1.90

In this table, which contains the polarization of all the juices in a consecutive series which were clear enough for the purpose after defecation, the agreement is satisfactory in all but a few instances, marked with an asterisk, and these cases are more easily explained by errors in the polariscope work than in titration. The results which are given are only a few out of several hundred similar ones which show an equally close agreement.

The conclusions which may be drawn from our experiments are that, in experienced hands, the relative results are to be entirely relied upon, and, when the conditions which have been detailed are followed, the absolute results are also satisfactory.

EXPLANATION OF THE TABLES SHOWING THE AVERAGE COMPOSITION, ETC., FOR EACH VARIETY OF SORGHUM IN EACH STAGE OF ITS GROWTH.

The following tables (tables 51 to 87) are of interest and value, for the reason that they present, in condensed form, the life history of each variety of sorghum.

An examination of these figures reveals the following facts: In the earlier stages in the growth of each plant the amount of crystallizable sugar (sucrose) is small; but, as the plant matures, the sucrose rapidly increases until it equals from 12 to 16 per cent. of the juice. The "solids not sugar" in the juice also increase from the first, but very much less rapidly than does the crystallizable sugar; at the same time the uncrystallizable sugar (glucose) steadily diminishes, so that the purity of the juice (shown in the column marked "exponent") increases constantly until the cane is ready to be worked.

These facts, and the inferences to be drawn from them, will be more fully discussed in connection with the general averages deduced from these figures. (See table 88.)

ANALYSES OF JUICES FROM SORGHUM.

TABLE No. 1.—EARLY AMBER. D. SMITH, ARLINGTON, VA.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct*	
July 12	1	1	2	6.5	0.8	.....	1.45	36.27	1.028	4.71	.60	.99	
13	2	8	2	7.5	.6	.....	1.47	52.30	1.041	3.77	2.25	1.72	
15	3	13	2	7.5	.6	.....	1.23	46.99	1.040	3.66	5.53	.91	
16	4	21	2	8.5	.7	2.37	1.74	54.73	1.037	3.62	4.91	.95	
17	5	24	2	8.7	.8	2.74	2.24	43.97	1.049	3.10	7.81	1.83	
20	6	49	2	8.6	.7	2.57	2.04	44.13	1.057	2.78	9.55	2.03	
21	7	71	2	8.6	.6	2.64	2.26	43.96	1.063	2.30	11.03	2.80	
22	7	116	2	8.2	.6	2.26	2.02	54.77	1.053	2.21	8.16	2.91	Light green, starchy.
23	8	117	1	8.6	.7	1.46	1.22	61.83	1.063	2.87	10.74	2.15	Do.
26	10	163	1	9.0	.7	1.45	1.13	61.36	1.058	2.43	10.65	1.78	Do.
27	10	203	1	8.4	.7	1.21	.99	64.73	1.067	1.80	12.65	2.79	Do.
28	10	237	1	8.7	.8	1.69	1.43	65.06	1.066	2.23	11.75	2.20	Do.
29	10	264	1	9.4	.6	1.37	1.14	62.10	1.073	1.58	10.77	.....	Do.
31	11	307	1	8.9	.6	1.23	1.05	58.94	1.076	1.46	13.68	3.68	Do.
Aug. 2	12	343	1	9.0	.8	1.50	1.34	60.02	1.078	1.32	14.86	3.02	Do.
9	11	559	1	8.7	.8	1.59	1.23	64.64	1.070	1.23	13.80	2.40	Do.
3	11	405	1	8.8	.7	1.33	1.13	65.63	1.071	1.53	13.63	2.86	Do.
3	11	406	1	8.8	.6	1.09	.92	61.98	1.077	1.51	13.45	4.21	Do.
3	11	407	1	8.6	.8	1.29	1.10	62.80	1.072	1.49	13.98	2.53	Do.
3	11	408	1	9.1	.8	1.43	1.19	63.93	1.073	1.48	14.23	2.65	Do.
6	12	489	1	8.5	.9	1.41	1.16	59.96	1.074	1.21	14.63	3.57	Do.
6	12	490	1	8.5	1.1	1.50	1.29	61.43	1.074	1.22	14.58	3.56	Do.
6	12	491	1	8.8	1.0	1.31	1.11	64.95	1.074	1.41	14.12	3.69	Do.
6	12	492	1	8.5	1.0	1.52	1.12	65.09	1.073	1.47	13.93	3.75	Do.
July 29	10	265	2	9.2	.7	3.22	2.75	64.50	1.067	2.17	12.33	Lost.	Do.
29	10	266	2	9.2	.7	2.46	2.06	71.08	1.070	2.23	12.37	Lost.	Do.
29	10	267	2	8.8	.7	2.48	2.07	63.98	1.073	1.89	13.36	Lost.	Do.
29	10	268	2	8.5	.6	2.35	1.97	65.47	1.073	1.99	12.89	Lost.	Do.
Aug. 12	12	679	1	9.2	.7	1.76	1.23	.....	1.074	1.08	14.07	2.40	Dark green, starchy.
12	12	680	1	9.0	.7	1.21	.87	65.82	1.065	1.41	12.24	1.56	Do.
12	12	681	1	8.6	.8	1.27	.95	65.82	1.067	1.23	12.70	2.94	Do.
12	12	682	1	9.0	.8	1.63	1.21	60.00	1.072	.97	14.30	2.26	Do.
16	13	809	1	9.5	.6	1.73	1.32	62.48	1.069	1.12	12.83	2.61	Do.
16	13	810	1	8.8	.6	1.31	.98	42.50	1.065	1.57	11.89	2.17	Do.
16	13	811	1	9.0	.8	1.69	1.25	59.22	1.073	1.21	14.07	2.24	Do.
16	13	812	1	8.8	.7	1.61	1.16	67.67	1.072	.99	13.92	2.44	Do.
19	13	981	1	8.2	.8	1.51	1.22	58.63	1.070	1.30	12.86	3.41	Do.
19	13	982	1	9.2	.8	1.45	1.21	57.66	1.065	1.17	11.97	3.24	Do.
19	13	983	1	8.8	.8	1.52	1.27	61.11	1.070	1.33	11.97	4.41	Do.
19	12	984	1	8.9	.7	1.52	1.17	56.89	1.078	.94	14.61	.....	Do.
21	15	1085	2	8.7	.8	2.78	1.96	60.36	1.065	1.43	11.84	2.93	Very dark green.
21	15	1086	2	8.7	.8	2.78	1.92	42.79	1.063	1.78	11.61	2.46	Dark reddish brown.
26	13	1256	1	9.1	.8	1.53	.91	60.36	1.071	.93	13.58	2.58	Dark brown, starchy.
26	13	1257	1	9.5	1.0	1.97	1.22	63.25	1.071	1.11	13.53	2.63	Do.
26	13	1258	1	9.3	.9	1.48	1.01	64.78	1.059	1.57	10.28	2.50	Do.
26	12	1259	1	9.0	.9	1.67	1.08	59.55	1.078	.79	14.67	3.42	Dark green, starchy.
30	14	1433	1	8.4	.8	1.42	.94	33.95	1.069	1.20	12.70	3.50	Dark brown, starchy.
30	14	1434	1	8.7	.8	1.47	.75	61.55	1.069	1.18	12.77	3.82	Do.
30	14	1435	1	9.0	.8	1.52	.91	57.26	1.068	1.36	12.34	4.18	Do.
30	14	1436	1	8.1	.8	1.61	.83	52.77	1.065	.93	12.39	3.25	Dark green, starchy.
Sept. 3	14	1608	1	9.0	.9	1.85	1.03	52.81	1.067	.96	13.23	2.44	Do.
3	14	1609	1	9.4	.7	1.46	.97	61.36	1.062	1.61	11.26	3.00	Dark brown, starchy.
3	14	1610	1	9.0	.8	1.16	.78	55.21	1.069	1.36	12.59	3.59	Do.
3	14	1611	1	8.7	.7	1.43	.79	60.77	1.068	1.05	13.05	2.94	Do.
8	15	1827	1	8.2	.7	1.19	.81	61.74	1.065	1.22	10.90	4.08	Do.
8	15	1828	1	9.0	.7	1.25	.77	64.20	1.056	2.01	9.56	2.78	Do.
8	15	1829	1	9.1	.7	1.49	.98	55.24	1.069	1.29	13.01	2.92	Do.
8	15	1830	1	9.0	.7	1.35	.86	59.64	1.058	1.35	9.09	4.35	Do.
10	15	1914	1	7.5	.8	1.59	.94	66.11	1.057	1.39	10.04	1.05	Dark green, starchy.
15	15	2014	1	8.5	.8	1.80	1.10	60.12	1.065	1.44	10.56	3.63	Dark brown, starchy.
15	15	2015	1	8.6	.8	1.17	.75	54.97	1.063	1.41	10.00	4.39	Do.
15	15	2016	1	8.9	.8	1.29	.80	56.04	1.063	1.47	10.61	3.91	Do.
15	15	2017	1	8.5	.8	1.21	.74	57.98	1.062	1.79	10.15	3.31	Do.
18	14	2134	1	9.1	.8	1.76	1.29	57.24	1.070	.89	12.11	4.62	Dark green, starchy.
18	15	2135	1	9.6	.8	1.45	1.04	55.69	1.060	1.77	8.96	4.27	Dark brown, starchy.
18	15	2136	2	8.5	1.0	3.52	.93	52.00	1.062	1.62	10.20	4.00	Do.
18	15	2137	1	8.0	.9	1.33	.88	55.86	1.068	1.29	12.12	3.12	Do.
24	16	2367	1	9.1	.8	1.92	1.17	57.51	1.064	1.41	11.87	3.21	Do.
24	16	2368	1	9.0	.8	1.46	.76	58.35	1.062	1.78	10.95	3.51	Do.
24	16	2369	1	8.6	.8	1.42	.82	60.48	1.060	2.16	10.15	3.02	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 24	16	2370	1	9.4	0.8	1.31	.93	57.57	1.049	1.64	7.85	3.57	Dark brown, starchy.
27	16	2530	1	8.8	.8	1.31	.88	46.75	1.062	1.32	11.29	2.41	Do.
27	16	2531	1	9.3	.8	1.06	.72	64.69	1.069	1.13	13.05	2.46	Do.
27	16	2532	1	8.5	.8	1.36	.84	60.52	1.067	1.45	12.33	2.44	Do.
27	14	2533	1	7.9	.8	1.25	.85	59.47	1.071	.95	13.78	2.54	Dark green, starchy.
30	16*	2681	1	6.0	.8	1.43	1.03	59.44	1.058	1.17	10.31	2.74	Dark brown, starchy.
Oct. 2	16	2727	1	8.6	.8	1.41	.92	60.57	1.067	1.69	10.97	4.02	Do.
6	17	2785	1	9.2	.8	1.34	.84	58.42	1.071	1.81	11.81	3.99	Dark olive, starchy.
8	17	2871	1	8.8	.7	1.32	.70	53.79	1.076	1.34	13.70	3.75	Red.
12	16	2941	2	9.0	.8	2.42	1.71	68.98	1.064	1.26	12.24	2.59	Light green, starchy.
14	17	2987	1	8.9	.8	1.23	.80	62.19	1.081	1.17	14.60	3.52	Dirty green.
15	17	3029	1	9.4	.8	1.58	.88	59.70	1.075	1.28	13.72	4.02	Dark olive.
17	18	3085	1	8.5	.9	1.57	.96	60.00	1.069	1.34	12.50	3.97	Do.
19	18	3069	1	8.8	.9	1.50	.97	64.71	1.061	1.56	10.27	3.96	Do.
21	18	3144	1	8.5	.7	1.23	.71	56.97	1.062	1.88	10.17	5.28	Do.
22	18	3188	1	8.4	.8	.90	.63	56.94	1.064	1.77	10.93	3.98	Do.
26	18†	3252	1	7.0	.8	1.01	.82	55.38	1.069	1.61	12.94	3.04	Dark green.
28	17	3297	1	8.4	.8	1.34	.92	55.26	1.074	1.54	13.24	4.40	Dark brown.
29	18	3328	1	6.2	.8	.89	.65	58.64	1.052	1.86	7.49	4.96	Do.
Nov. 2	17‡	3373	1	10.5	1.1	.....	.95	50.23	1.082	1.16	15.25	3.32	Dark straw.
6	17	3441	1	8.0	.8	1.09	.77	61.21	1.074	1.46	13.06	2.82	Dark olive.
8	18	3456	1	8.0	.7	.83	.68	54.55	1.066	1.52	11.18	2.98	Do.
8	18	3467	1	9.0	.8	1.17	.99	54.34	1.055	2.19	8.41	3.48	Do.
13	18	3522	2	8.5	.6	1.23	.91	55.58	1.069	2.25	10.64	4.56	Do.

*Topped August 28. †Topped. ‡Stripped and topped.

TABLE NO. 2.—EARLY AMBER. PLANT SEED COMPANY, SAINT LOUIS, MO.

July 12	1	2	2	7.5	0.6	.....	1.38	62.78	1.026	4.04	.98	.91	
15	2	14	2	8.5	.6	.....	1.78	30.70	1.035	3.96	3.47	1.27	
21	2	82	4	6.6	.5	2.92	2.34	55.91	1.051	3.12	7.43	2.44	
16	3	23	1	6.7	.7	.92	.77	54.09	1.029	4.01	1.73	1.40	
17	4	25	2	7.7	.8	2.35	1.89	59.87	1.050	2.68	7.95	2.14	
20	5	50	1	8.7	.7	1.33	1.10	64.79	1.045	3.05	6.44	1.80	
20	6	51	2	8.8	.7	2.71	2.21	52.46	1.049	3.13	6.97	1.72	
21	7	72	2	8.3	.7	2.48	2.01	51.23	1.057	2.64	10.02	2.19	
23	8	118	1	9.4	.8	1.68	1.41	58.81	1.056	2.87	9.36	1.78	Light green.
26	10	164	1	8.6	.8	1.58	1.34	60.44	1.063	2.54	11.10	2.02	Light green, starchy.
27	10	204	1	8.6	.7	1.34	1.10	63.09	1.067	2.05	12.08	3.26	Do.
28	10	238	1	8.2	.7	1.21	1.01	61.59	1.070	1.73	12.83	2.73	Do.
30	10	273	1	9.4	.7	1.57	1.38	62.45	1.075	1.86	.....	.....	Do.
31	11	308	1	8.9	.6	1.24	1.04	59.75	1.077	1.57	13.07	4.16	Do.
Aug. 2	11	344	1	9.0	.7	1.45	1.28	63.92	1.074	1.48	13.94	2.82	Do.
4	10	440	1	9.0	.7	1.54	1.29	64.96	1.068	1.51	13.13	2.12	Do.
9	12	560	1	9.4	.9	1.67	1.27	67.30	1.073	1.30	14.32	2.19	Do.
3	12	409	1	9.9	.7	1.51	1.29	63.25	1.073	1.65	14.10	2.75	Do.
3	12	410	1	8.8	.7	1.23	1.02	66.67	1.070	2.04	12.83	2.98	Do.
3	12	411	1	9.2	.8	1.33	1.14	64.29	1.073	2.13	13.91	2.51	Do.
3	12	412	1	8.4	.7	1.24	1.06	63.28	1.075	1.49	14.71	3.89	Do.
6	11	493	1	8.8	1.0	1.56	1.35	66.34	1.068	1.54	13.02	3.37	Do.
6	11	494	1	8.7	1.1	1.71	1.46	67.67	1.069	1.74	12.90	3.46	Do.
6	11	495	1	8.5	1.0	1.40	1.19	64.63	1.071	1.27	13.93	3.47	Do.
6	11	496	1	9.0	.9	1.39	1.21	65.57	1.070	1.72	13.25	3.39	Do.
12	14	683	1	9.6	.7	1.42	1.14	65.10	1.062	1.45	11.65	2.25	Dark green, starchy.
12	13	684	1	8.4	.8	1.40	1.12	63.90	1.068	1.25	10.71	4.55	Brownish, starchy.
12	13	685	1	8.8	.9	1.60	1.16	66.03	1.069	1.27	13.34	2.09	Dark green, starchy.
12	13	686	1	8.9	.8	1.55	1.08	65.20	1.070	1.03	13.67	2.31	Do.
16	13	813	1	9.1	.9	1.79	1.30	64.58	1.069	1.27	12.90	2.45	Do.
16	14	814	1	9.5	.9	1.70	1.30	64.92	1.065	1.79	11.46	2.67	Do.
16	14	815	1	8.3	.9	1.59	1.13	63.10	1.065	1.31	12.13	2.48	Do.
16	14	816	1	8.6	.8	1.35	1.25	46.30	1.058	1.22	10.85	2.20	Do.
19	14	985	1	9.0	.8	1.67	1.40	63.29	1.064	1.74	11.07	3.45	Do.
19	14	986	1	9.1	.8	1.80	1.53	63.40	1.068	1.62	11.75	3.86	Do.
19	14	987	1	8.7	.7	1.49	1.23	61.04	1.063	1.39	11.42	3.42	Do.
19	14	988	1	9.0	.9	1.49	1.28	59.83	1.069	1.42	12.48	3.55	Do.
21	14	1087	2	8.5	.8	2.81	2.20	*64.06	1.065	1.38	12.21	2.61	Brown, starchy.
21	14	1088	2	8.5	.8	2.81	1.60	†43.69	1.067	1.77	11.68	3.23	Reddish brown.
26	14	1260	1	9.2	.8	1.99	1.21	58.51	1.067	1.08	12.21	2.92	Dark brown, starchy.

*Juice expressed by mill. †Juice expressed in press.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 26	12	1261	1	9.0	0.8	1.94	1.26	57.53	1.076	.85	14.87	2.68	Dark green, starchy.
26	16	1262	1	8.6	1.0	1.32	.88	62.50	1.056	1.60	9.39	2.88	Dark brown, starchy.
26	14	1263	1	8.9	.9	1.42	1.01	63.13	1.067	1.23	11.92	3.25	Do.
30	14	1437	1	8.8	.9	1.68	1.11	67.76	1.060	1.53	12.80	1.09	Do.
30	12	1438	1	8.9	.9	1.91	1.33	56.70	1.077	1.00	14.65	3.90	Do.
30	12	1439	1	8.9	.9	1.51	.98	60.36	1.065	1.71	11.27	3.59	Do.
30	12	1440	1	8.8	.8	1.57	.96	60.78	1.073	.97	13.92	3.75	Do.
Sept. 3	13	1612	1	9.1	.8	2.09	1.34	59.18	1.069	1.17	13.15	2.80	Do.
3	14	1613	1	8.6	.8	1.54	1.07	63.77	1.060	1.92	10.29	2.98	Do.
3	16	1614	1	9.4	.8	1.47	.95	62.96	1.046	1.82	6.90	2.66	Do.
3	14	1615	1	8.6	.7	1.13	.71	58.02	1.065	1.12	12.19	3.26	Do.
8	16	1831	1	9.1	.7	1.16	.69	56.19	1.058	1.48	9.60	3.85	Do.
8	15	1832	1	9.0	.8	1.58	1.12	55.81	1.065	1.49	10.96	3.85	Do.
8	15	1833	1	9.0	.8	1.72	1.04	59.32	1.061	1.71	8.43	4.99	Do.
8	15	1834	1	9.0	.8	1.82	1.15	59.20	1.067	1.51	11.05	4.12	Do.
10	15	1915	1	8.4	.8	1.85	1.08	57.75	1.062	1.46	9.90	4.32	Do.
15	15	2018	1	9.0	.8	1.30	.92	56.93	1.067	1.64	11.22	4.95	Do.
15	15	2019	1	8.6	.8	.98	.68	53.74	1.065	1.33	9.44	7.45?	Do.
15	15	2020	1	8.8	.8	1.08	.66	57.39	1.063	1.63	10.05	4.55	Do.
15	15	2021	1	8.9	.8	1.06	.71	55.24	1.065	1.63	11.13	2.92	Do.
18	16	2138	1	9.0	.7	1.14	.86	55.89	1.057	1.52	9.12	3.17	Do.
18	15	2139	1	8.7	.9	1.87	1.12	57.84	1.066	1.83	11.76	3.30	Do.
18	15	2140	1	8.4	.9	1.58	.94	56.33	1.062	1.49	9.43	7.11?	Do.
18	16	2141	1	9.0	.9	1.50	1.05	53.55	1.059	1.42	9.78	4.10	Do.
24	16	2371	1	8.8	.8	1.23	.83	59.72	1.050	1.70	8.06	3.38	Do.
24	15	2372	1	8.8	.8	1.54	.86	59.23	1.063	1.73	10.73	3.91	Do.
24	15	2373	1	8.9	.8	1.66	1.18	59.19	1.067	1.30	11.82	3.98	Do.
24	16	2374	1	9.3	.8	1.57	1.00	54.84	1.052	2.27	7.84	4.86	Do.
27	15	2534	1	8.0	.8	1.19	Lost.	Lost.	1.068	1.01	13.08	2.39	Dark green, starchy.
27	16	2535	1	9.8	.7	1.27	.78	46.89	1.059	1.61	10.27	2.95	Dark brown, starchy.
27	15	2536	1	9.1	.8	1.53	1.05	59.41	1.065	1.58	11.32	3.02	Do.
27	15	2537	1	8.8	.8	1.50	.95	57.44	1.063	1.43	11.17	3.44	Do.
30	16*	2682	1	7.9	.9	1.83	1.27	63.54	1.060	1.84	8.57	3.22	Do.
Oct. 2	17	2728	1	8.9	.8	1.91	.94	62.82	1.074	.93	13.42	4.37	Yellowish.
6	17	2786	1	8.6	.8	1.80	1.13	64.64	1.076	1.14	13.86	4.20	Brownish, green, starchy.
8	17	2872	1	8.8	.9	1.54	.99	68.08	1.061	1.60	10.74	2.74	Red.
12	17	2942	1	9.0	.9	1.56	.84	61.52	1.074	.88	14.13	3.10	Light green, starchy.
14	17	2988	1	8.8	.8	1.43	.80	56.43	1.074	1.71	11.80	4.17	Dark olive.
15	18	3030	1	9.4	.9	1.43	.99	57.59	1.062	1.65	9.73	4.34	Do.
17	18	3086	1	8.4	.9	1.78	.96	62.47	1.056	2.04	9.08	3.46	Do.
19	18	3112	1	7.7	.8	1.39	.83	42.59	1.069	1.46	12.05	3.57	Do.
21	18	3145	1	9.2	.8	.96	.72	57.29	1.060	2.24	9.07	5.28	Olive.
22	18	3189	1	9.0	.8	1.32	.84	57.63	1.063	1.89	10.50	3.27	Dark olive.
26	18	3253	1	9.4	.9	1.42	1.10	53.78	1.064	1.59	10.79	3.78	Olive.
28	18	3298	1	8.0	.7	.77	.58	39.25	1.063	2.26	9.98	3.89	Dark brown.
29	18	3329	1	9.0	.8	1.34	.88	61.19	1.066	1.76	10.08	4.81	Do.
Nov. 2	18†	3374	1	8.3	.8	.....	.80	59.73	1.061	2.71	9.13	3.19	Dark olive.
6	18	3442	1	8.2	.9	1.26	.97	58.82	1.069	1.34	11.99	3.74	Do.
8	18	3457	1	8.5	.7	1.41	1.00	62.33	1.068	2.00	11.31	2.79	Do.
10	18	3486	1	8.3	.8	1.22	.76	54.05	1.065	2.43	9.87	4.41	Do.
10	18	3497	1	8.3	.9	1.12	.98	61.74	1.061	2.02	10.17	3.29	Olive.
13	18	3523	1	8.3	.9	1.03	.79	61.94	1.065	1.82	10.89	3.63	Dark olive.
15	18	3540	2	8.5	.7	1.52	1.26	59.96	1.057	3.43	7.30	2.96	Olive.

TABLE NO. 3.—EARLY GOLDEN. A. B. SWAIN, ELYSIAN, MINN.

July 12	1	3	2	7.0	0.6	.....	1.35	63.90	1.023	3.68	.70	.77	
15	2	15	2	8.0	.6	.....	1.50	40.82	1.028	3.83	2.08	5.68	
16	3	22	2	8.0	.6	1.67	1.46	48.04	1.030	4.09	2.34	1.22	
17	4	26	2	8.4	.7	1.76	1.45	52.40	1.043	3.05	6.43	1.83	
20	5	52	2	8.5	.7	2.17	1.74	58.27	1.048	3.10	7.03	1.64	
20	6	53	2	9.1	.8	2.92	2.39	54.95	1.047	3.04	7.63	1.44	
23	7	119	1	8.8	.7	1.51	1.30	47.02	1.057	2.81	9.34	2.28	Light green.
26	8	165	1	9.0	.7	1.54	1.32	62.00	1.067	2.52	11.77	1.89	Darker green, starchy.
27	9	205	1	7.8	.7	1.33	1.11	60.79	1.062	2.04	11.09	2.92	Light green, starchy.
28	10	239	1	8.4	.7	1.52	1.12	39.41	1.066	1.85	11.81	2.52	Do.
30	10	274	1	8.1	.8	1.29	1.10	63.71	1.074	1.65	10.37	6.00?	Do.
31	11	309	1	7.8	.7	1.24	1.05	63.28	1.072	1.66	12.27	3.89	Do.

*Topped August 28. †Stripped in the field.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 2	12	345	1	9.5	0.8	1.47	1.27	65.63	1.076	1.44	13.89	3.44	Light green, starchy.
9	12	561	1	9.1	.7	1.36	1.07	76.40	1.068	1.46	13.51	2.03	Do.
3	12	413	1	9.4	.8	1.37	1.17	65.85	1.071	1.57	13.59	2.72	Do.
3	12	414	1	9.3	.7	1.64	1.41	65.23	1.073	1.66	14.36	2.29	Do.
3	12	415	1	9.4	.8	1.48	1.26	66.64	1.072	1.88	13.62	2.69	Do.
3	12	416	1	8.8	.9	1.83	1.56	65.91	1.072	1.48	13.32	3.20	Do
6	12	497	1	9.5	.8	1.21	1.03	62.98	1.070	1.49	13.55	1.69	Do.
6	12	498	1	9.0	1.0	1.25	1.10	65.06	1.071	1.48	13.56	3.59	Darker gr'n, starchy.
6	12	499	1	9.5	1.0	1.39	1.21	66.24	1.069	1.38	12.96	3.57	Do.
6	12	500	1	8.6	1.0	1.54	1.32	68.00	1.071	1.36	13.64	3.72	Do.
12	13	687	1	9.5	.8	1.50	1.10	66.43	1.065	1.21	12.66	2.18	Dark green, starchy.
12	13	688	1	9.5	.9	1.77	1.37	63.57	1.071	1.16	13.69	2.56	Do.
12	13	689	1	8.5	.9	1.79	1.37	66.34	1.069	3.22	11.83	2.26	Do.
12	13	690	1	9.1	.8	1.67	1.35	67.72	1.067	1.20	12.60	2.69	Do.
16	13	817	1	9.5	.9	1.71	1.02	79.84	1.064	1.30	11.72	2.63	Do.
16	13	818	1	8.6	.9	1.45	1.00	64.65	1.066	1.15	12.27	2.62	Do.
16	13	819	1	8.8	.8	1.37	1.13	57.41	1.063	1.21	11.38	2.98	Do.
16	12	820	1	8.0	.7	1.50	1.34	52.68	1.073	1.22	13.77	2.62	Do.
20	13	989	1	9.1	.8	1.93	1.60	58.86	1.067	1.42	12.09	3.13	Brownish, starchy.
20	13	990	1	9.2	.7	1.19	1.01	56.74	1.063	1.14	10.74	3.78	Do.
20	13	991	1	9.3	.9	1.44	1.23	57.27	1.062	1.15	11.04	3.16	Do.
20	15	992	1	8.5	.7	1.30	1.10	61.55	1.055	1.65	9.06	3.33	Do.
23	14	1131	1	9.5	.8	1.38	.93	58.89	1.062	1.25	11.35	2.94	Dark brown, starchy.
23	13	1132	1	9.4	.7	1.40	.96	55.02	1.072	1.08	13.24	3.54	Do.
23	14	1133	1	8.1	.8	1.42	1.02	68.14	1.060	1.72	10.46	3.01	Do.
23	14	1134	1	8.2	.8	1.18	.85	52.83	1.059	1.66	9.70	3.09	Do.
26	14	1264	1	8.6	.9	1.63	1.32	63.54	1.056	1.54	9.38	3.05	Do.
26	14	1265	1	9.1	.8	1.84	1.18	63.50	1.063	1.96	10.16	3.31	Do.
26	12	1266	1	8.4	.9	1.58	1.02	61.29	1.076	1.05	14.01	3.30	Dark green, starchy.
26	14	1267	1	8.1	.8	1.74	1.09	65.36	1.059	1.74	10.26	2.02	Dark brown, starchy.
31	15	1441	1	8.8	.8	1.56	1.01	57.54	1.047	2.21	6.79	2.60	Do.
31	15	1442	1	8.8	.8	1.84	1.19	63.30	1.056	1.60	9.28	2.85	Do.
31	14	1488	1	9.5	.7	1.56	1.17	62.08	1.066	1.72	11.40	2.92	Do.
31	14	1489	1	9.0	.7	1.45	1.03	55.98	1.063	1.23	10.51	3.69	Do.
Sept. 3	14	1616	1	9.6	.8	1.72	1.22	60.90	1.063	1.51	11.95	2.58	Do.
3	14	1617	1	8.1	.9	1.58	1.12	71.57	1.066	2.04	11.94	2.63	Dark green, starchy.
3	14	1618	1	8.5	.9	1.59	1.05	58.49	1.060	1.20	11.00	3.18	Dark brown, starchy.
3	15	1619	1	8.5	.9	1.53	.99	59.55	1.058	1.39	10.24	3.07	Do.
8	15	1835	1	8.6	.7	1.41	.97	62.77	1.056	1.59	8.95	3.76	Do.
8	15	1836	1	9.5	.8	1.38	.98	49.21	1.058	1.55	8.61	4.87?	Do.
8	15	1837	1	8.5	.7	1.12	.73	57.19	1.051	1.65	9.50	4.47?	Do.
8	15	1838	1	7.0	.7	1.41	.94	61.07	1.056	1.65	8.65	—.59?	Do.
16	13	2023	1	8.5	.7	1.50	.95	51.62	1.072	1.50	13.09	6.12?	Do.
16	13	2024	1	8.2	.7	1.51	1.25	62.97	1.070	1.67	13.00	2.29	Dark green, starchy.
16	15	2025	2	8.9	.7	2.15	1.60	62.08	1.059	1.98	9.75	2.58	Dark brown, starchy.
16	15	2026	1	8.8	.7	1.21	.92	58.99	1.054	1.99	7.91	3.24	Do.
18	16	2142	1	9.3	.8	1.64	1.18	54.74	1.061	1.93	9.78	5.63	Do.
18	13	2143	1	9.8	.8	1.91	1.30	56.85	1.071	1.33	12.71	3.84	Do.
18	16	2144	1	9.0	.9	1.53	1.09	54.94	1.064	1.80	10.57	4.31	Do.
18	16	2145	1	9.0	.9	1.34	.98	56.19	1.054	1.57	8.38	5.09	Do.
24	16	2375	1	8.5	.8	1.22	.74	57.98	1.059	1.33	10.24	4.81	Do.
24	14	2376	1	9.0	.8	1.17	.73	56.76	1.061	1.51	10.24	4.27	Do.
24	14	2377	1	8.8	.8	1.35	.93	55.80	1.063	1.45	10.88	4.65	Do.
24	14	2378	1	8.0	.9	1.76	1.10	59.76	1.068	1.38	11.79	4.06	Do.
27	16	2538	1	8.7	.8	.99	.69	46.03	1.051	1.93	8.29	2.67	Do.
27	14	2539	1	8.3	.7	.93	.50	58.66	1.069	1.60	12.25	3.13	Do.
27	14	2540	1	9.3	.9	1.43	1.01	55.48	1.067	1.29	12.26	3.23	Do.
27	15	2541	1	8.7	.8	1.44	1.14	45.00	1.058	1.63	9.56	3.08	Do.
30	13*	2683	1	6.9	.8	1.52	1.16	60.03	1.073	1.27	12.85	3.40	Dark green, starchy.
Oct. 2	16	2729	1	8.6	.8	1.28	.88	57.00	1.060	2.19	8.67	4.47	Dark red brown.
6	14	2787	1	9.0	1.0	1.39	.90	61.51	1.068	1.37	11.62	4.06	Dark olive, starchy.
8	14	2873	1	8.8	.8	1.32	.82	55.64	1.065	1.58	11.09	3.34	Red.
12	16	2943	1	7.6	.8	2.00	.95	65.43	1.055	1.90	9.34	2.79	Dark olive, starchy.
14	17	2989	1	8.6	.9	1.52	.85	56.10	1.081	1.20	13.89	4.30	Olive.
15	16	3031	1	8.1	.8	1.03	.70	60.69	1.052	2.32	7.46	3.77	Dark olive.
17	16	3087	1	8.0	.7	.79	.55	60.40	1.061	1.95	10.13	3.09	Dirty green.
19	17	3113	1	7.6	.7	.90	.59	51.49	1.071	1.69	12.25	3.67	Dark olive.
21	16	3146	1	8.1	.7	1.00	.56	52.34	1.060	2.90	8.78	3.37	Do.
25	16	3206	1	8.4	.9	1.23	.79	55.83	1.053	2.73	7.56	3.05	Deep brown.
26	18	3254	1	9.3	.8	1.12	.96	55.63	1.060	2.13	10.74	1.80	Olive.
28	18	3299	1	7.6	.7	.68	.48	65.45	1.063	1.82	9.49	3.55	Dark brown.
29	18	3330	1	8.5	.8	.94	.67	58.17	1.063	2.56	9.41	4.07	Do.

* Topped August 2?.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.		Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
					Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Nov.	2	17	3375	1	8.5	1.0	.....	1.41	67.60	1.075	1.83	13.61	2.41	Light green.
	6	17	3443	1	8.3	1.0	1.42	1.11	62.57	1.073	1.26	13.61	2.87	Dark olive.
	8	18	3458	1	9.0	.7	.84	.75	58.36	1.058	2.03	8.62	3.53	Do.
	9	18	6469	1	9.0	.8	1.00	.85	65.55	1.066	1.91	11.15	3.29	Dirty brown.
	10	18	3498	1	8.0	.8	.99	.80	60.82	1.067	2.14	12.48	2.18	Dark olive.
	13	17	3524	1	8.0	1.0	2.03	1.63	65.86	1.074	1.07	14.13	Lost.	Dark green.
	15	18	3541	1	8.0	.7	1.35	.80	57.58	1.060	2.89	10.97	1.42	Olive.

TABLE NO. 4.—GOLDEN SIRUP. WILLIAM H. LYTLE, YELLOW SPRINGS, OHIO.

July	12	1	4	2	7.2	0.8	.....	1.65	65.32	1.021	3.59	.48	.87	
	16	2	17	2	7.3	.7	1.63	1.32	48.07	1.028	3.81	2.22	3.09	
	17	3	38	1	8.4	.6	.96	.79	53.55	1.036	4.05	3.61	1.87	
	19	4	39	2	8.3	.7	1.96	1.66	44.12	1.042	3.97	5.28	1.41	
	20	5	70	2	7.8	.6	1.97	1.59	62.71	1.043	3.81	5.38	1.83	
	21	6	83	1	9.1	.7	1.26	.98	59.01	1.046	2.34	7.37	2.24	
	22	7	102	1	8.4	.7	1.46	1.08	.....	1.054	2.73	.....	.....	
	24	7	147	1	7.5	.7	1.57	1.33	59.39	1.053	2.76	8.83	1.85	Light green, very starchy.
	23	8*	129	1	9.0	.8	1.77	1.42	56.41	1.053	2.99	8.33	2.17	Light green, starchy.
	26	9	176	1	8.3	.7	1.18	.96	64.14	1.055	3.44	8.61	1.88	Do.
	27	10	226	1	8.7	.7	1.11	1.06	62.67	1.065	2.14	11.23	3.11	Do.
	29	10	254	1	8.1	.7	1.56	1.29	65.04	1.069	2.02	10.80	4.30	Dark green, starchy.
	30	10	288	1	9.2	.7	1.39	1.18	63.35	1.071	2.02	12.23	3.40	Lighter green, starchy.
	31	10	327	1	9.0	.7	1.44	1.24	65.49	1.072	1.87	13.46	2.53	Do.
Aug.	2	10	360	1	8.7	.8	1.39	1.19	70.19	1.068	2.37	12.40	2.83	Light green, starchy.
	4	10	431	1	9.3	.8	1.64	1.35	62.89	1.070	1.37	13.84	2.13	Do.
	6	10	514	1	9.0	.4	1.18	1.02	64.30	1.073	.....	.....	.....	Dark green, starchy.
	7	10	542	1	8.9	.8	1.48	1.25	66.19	1.071	1.70	13.24	2.47	Do.
	9	11	576	1	8.9	.8	1.23	.98	64.85	1.070	1.72	13.46	2.53	Watery, some starch.
	3	11	401	1	10.0	.8	1.69	1.44	66.26	1.075	2.03	13.86	2.90	Light green, starchy.
	3	11	402	1	8.9	.7	1.17	.99	68.22	1.065	2.17	11.62	2.45	Do.
	3	11	403	1	8.7	.8	1.29	1.08	66.53	1.075	2.05	14.02	3.00	Do.
	3	11	404	1	9.4	.7	1.50	1.31	67.11	1.073	1.74	13.29	3.33	Do.
July	29	10	269	2	9.3	.7	3.08	2.57	68.55	1.062	2.53	10.89	Lost	Do.
	29	10	270	2	9.2	.7	3.01	2.56	68.64	1.067	2.51	11.53	Lost	Do.
	29	10	271	2	8.4	.8	3.00	2.45	67.98	1.068	2.06	12.23	Lost	Do.
	29	10	272	2	8.5	.7	2.81	2.34	68.73	1.064	2.35	11.18	Lost	Do.
Aug.	13	11	748	1	8.8	.8	1.51	1.19	63.89	1.066	1.56	12.50	2.45	Dark green, starchy.
	13	11	749	1	8.6	.9	1.65	1.30	64.60	1.074	1.07	14.31	2.59	Do.
	13	11	750	1	8.5	.9	1.78	1.37	63.12	1.075	.99	14.72	2.42	Do.
	13	11	751	1	9.0	.8	1.28	.98	65.32	1.067	1.42	12.57	2.69	Do.
	17	10	879	1	9.1	.8	1.59	1.22	62.70	1.070	1.37	11.38	4.12	Do.
	17	12	880	1	8.4	.9	1.58	1.31	60.99	1.079	.93	14.76	3.31	Do.
	17	12	881	1	8.2	.8	1.62	1.28	62.44	1.076	1.01	14.06	3.29	Do.
	17	12	882	1	9.2	.9	1.40	1.12	64.92	1.075	1.29	13.26	3.59	Do.
	21	12	1060	1	8.7	.9	1.89	1.55	61.56	1.072	1.29	13.48	3.33	Do.
	21	10	1061	1	9.0	.9	1.21	1.00	61.37	1.052	1.44	11.12	.84	Do.
	21	11	1062	1	9.0	.9	1.27	.96	61.83	1.061	1.40	10.46	3.55	Do.
	21	11	1063	1	8.9	.8	1.38	1.13	58.56	1.066	1.46	11.34	4.23	Do.
	25	10	1193	1	9.0	.8	1.65	.88	55.89	1.057	1.10	10.41	2.73	Dark brown, starchy.
	25	13	1194	1	9.6	.9	1.76	1.36	58.00	1.081	.84	15.46	3.27	Dark green, starchy.
	25	13	1195	1	8.1	.8	1.48	1.09	62.22	1.075	.85	15.13	2.62	Do.
	25	14	1196	1	9.1	.8	1.47	1.10	60.50	1.065	1.48	12.08	2.78	Dark brown, starchy.
	27	14	1323	1	9.5	.8	1.53	1.14	59.61	1.066	1.42	11.64	3.45	Do.
	27	14	1324	1	9.5	.9	1.54	1.11	61.11	1.066	1.56	11.38	3.62	Do.
	27	14	1325	1	9.1	.8	1.54	1.10	62.55	1.065	1.36	10.97	3.77	Do.
	27	14	1326	1	9.5	.8	1.55	1.18	64.00	1.068	1.30	12.44	3.33	Do.
Sept.	2	12	1545	1	9.0	.7	1.57	1.16	62.99	1.071	1.09	13.60	2.54	Dark green, some starch.
	2	12	1546	1	9.6	.7	1.71	1.27	61.00	1.071	1.04	13.89	2.62	Do.
	2	14	1547	1	8.6	.7	1.25	.91	62.89	1.053	1.41	9.71	2.08	Dark brown, starchy
	2	14	1548	1	8.6	.7	1.60	1.10	58.40	1.068	1.33	12.12	3.12	Do.
	6	15	1697	1	9.4	.7	1.30	.90	70.76	1.054	1.59	9.87	2.39	Do.
	6	14	1698	1	9.1	.7	1.56	1.08	56.32	1.065	1.50	11.57	3.03	Do.
	6	15	1699	1	8.5	.8	1.35	.92	56.48	1.054	1.58	9.54	2.54	Do.

* Suckered.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 6	15	1700	1	8.5	0.7	1.06	.75	55.24	1.054	1.72	8.96	2.51	Dark brown, starchy.
9	14	1892	1	9.0	.8	1.58	1.13	60.97	1.064	1.40	11.06	2.43	Do.
9	15	1893	1	8.7	.9	1.36	.95	62.73	1.057	1.38	9.58	3.18	Do.
9	15	1894	1	9.0	.8	1.34	.95	60.37	1.065	1.38	10.88	3.65	Do.
9	15	1895	1	9.4	.8	1.47	1.23	58.39	1.063	1.39	10.64	.....	Do.
17	12	2086	1	9.3	.9	1.56	1.19	58.33	1.070	1.58	13.10	3.82	Do.
17	15	2087	1	8.4	.9	1.45	1.01	59.82	1.068	1.45	11.00	4.92	Do.
17	15	2088	1	8.5	.9	1.21	.90	59.26	1.063	1.73	11.06	2.97	Do.
17	15	2089	1	8.0	.9	1.34	1.07	56.61	1.058	1.45	10.07	3.27	Do.
21	15	2201	1	8.4	.7	1.05	.65	46.44	1.066	1.36	11.78	3.09	Do.
21	15	2202	1	7.5	.7	.92	.66	61.00	1.063	2.06	11.16	2.16	Do.
21	15	2203	1	9.3	.8	1.53	.87	75.88	1.068	1.21	12.64	2.58	Do.
21	15	2204	1	8.3	.8	1.36	.94	59.24	1.061	1.68	10.89	2.46	Do.
24	13	2431	1	8.8	.8	1.08	.78	57.62	1.073	.92	9 86	4.88	Do.
24	16	2432	1	8.6	.8	1.03	.76	57.22	1.068	1.18	12.89	3.30	Do.
24	16	2433	1	8.8	.9	1.45	1.04	61.65	1.065	1.56	11.74	2.99	Do.
24	16	2434	1	8.8	.8	1.15	.71	52.50	1.064	1.67	10.87	3.16	Do.
28	15	2614	1	9.1	.8	1.13	.85	55.44	1.055	1.90	9.50	2.06	Do.
28	16	2615	1	8.5	.7	.85	.62	57.77	1.071	1.40	12.84	2.89	Do.
28	16	2616	1	8.1	.9	1.56	1.04	61.65	1.063	1.82	11.27	2.20	Do.
28	15	2617	1	11.2	1.0	1.26	.69	43.49	1.056	.49	9.91	1.58	Dark green, some starch.
Oct. 1	16*	2697	1	7.5	.8	1.20	.92	58.65	1.062	1.81	9.87	3.90	Dark brown.
4	16	2747	1	9.0	.8	1.15	.86	58.93	1.064	1.37	11.98	3,29	Do.
7	16	2815	1	8.3	.8	1.50	.....	.....	1.070	1.19	13.29	4.43	Olive.
11	16	2907	1	9.0	.8	1.32	1.05	62.26	1.075	.....	.....	.....	Dark green.
13	16	2977	1	8.2	.8	1.19	.97	61.52	1.068	1.69	11.27	3.57	Very dark olive.
15	17	3009	1	8.3	.8	1.28	1.15	60.87	1.074	.94	Lost.	Lost	Olive.
16	17	3046	1	8.1	.9	1.21	Lost	Lost	1.068	1.58	12.62	3.50	Do.
19	17	3103	1	8.2	.8	2.42	.92	59.29	1.068	.81	12.96	8.37	Dark olive.
20	17	3130	1	8.3	.6	1.31	.98	60.40	1.068	1.76	11.84	3.53	
22	17	3165	1	9.1	.9	1.12	.76	54.78	1.071	1.80	11.60	4.12	Olive.
25	17	3220	1	8.7	.8	.99	.81	55.14	1.074	2.59	12.53	4.38	Do.
27	17	3276	1	8.9	.9	1.33	.97	59.28	1.075	1.80	13.54	4.24	Do.
29	18	3315	1	8.3	.8	1.13	.88	64.25	1.067	2.08	11.38	2.42	Dark brown.
30	18	3345	1	8.5	.8	1.51	.77	56.44	1.072	1.46	12.43	4.44	Do.
Nov. 3	18	3394	1	8.2	.8	1.03	.81	62.94	1.062	1.78	10.54	3.08	Dark olive.
5	18	3430	1	9.3	.6	1.36	1.06	55.42	1.046	3.64	4.89	2.85	Light olive.
10	18	3487	1	9.0	.9	1.29	1.04	58.95	1.062	1.74	10.31	3.46	Dark olive.
12	18	3508	1	8.3	.7	.61	.51	54.94	1.049	1.88	5.91	6.53	Olive.

TABLE NO. 5.—WHITE LIBERIAN. D. SMITH, ARLINGTON, VA.

July 12	1	5	2	7.0	0.9	.....	2.38	46.57	1.023	3.28	1.19	.79	
16	2	20	2	7.8	.8	2.87	2.38	47.07	1.028	3.81	2.45	.87	
17	3	31	1	8.2	.7	1.43	1.19	51.53	1.028	3.68	2.35	2.05	
17	4	35	1	7.7	.8	1.71	1.41	42.28	1.031	3.21	3.70	1.72	
21	5	75	1	8.0	.9	1.66	1.39	43.87	1.039	3.58	5.11	1.62	
21	6	76	1	9.0	.8	1.98	1.65	57.00	1.047	3.16	7.20	2.03	
23	7	121	1	8.7	.8	1.79	1.46	63.20	1.045	3.30	6.30	1.98	Light green.
26	8	167	1	7.4	.8	1.63	1.35	64.84	1.051	2.99	8.46	1.63	Darker green.
27	9	207	1	8.8	.8	1.79	1.65	41.60	1.054	2.94	8.93	2.03	Light green, starchy.
28	10	241	1	8.4	.8	1.73	1.46	62.72	1.061	2.34	10.76	2.07	Dark green, starchy.
30	10	276	1	8.7	.8	1.72	1.47	70.27	1.064	2.53	9.08	4.32	Light green, starchy.
31	10	311	1	8.8	.8	1.66	1.38	67.15	1.066	2.40	11.31	2.71	Do.
Aug. 2	10	347	1	9.2	.9	1.88	1.63	52.92	1.066	2.24	11.69	2.77	Do.
9	12	563	1	8.0	.9	1.81	1.43	71.23	1.070	1.67	13.51	2.30	Do.
3	11	417	1	8.2	.7	1.31	1.07	67.93	1.065	2.35	11.26	2.92	Do.
3	11	418	1	8.4	.8	1.73	1.50	67.23	1.069	1.79	11.63	3.93	Do.
3	11	419	1	8.5	.8	1.71	1.45	69.55	1.065	2.14	11.71	2.68	Do.
3	11	420	1	8.5	.8	1.73	1.53	66.00	1.069	1.89	11.81	3.79	Do.
6	12	501	1	9.5	1.3	2.20	1.88	65.03	1.070	1.69	13.08	3.64	Dark green, starchy.
6	12	502	1	8.0	1.1	1.43	1.18	67.29	1.069	1.68	12.84	3.63	Do.
6	12	503	1	8.2	1.2	1.54	1.35	66.34	1.070	1.48	12.75	4.07	Do.
6	12	504	1	8.5	1.2	1.80	1.56	64.64	1.071	1.96	12.69	3.70	Do.
12	11	695	1	8.4	.9	1.97	1.46	68.02	1.067	1.54	13.07	2.02	Do.
12	11	696	1	8.2	.9	1.77	1.50	67.06	1.068	1.52	13.00	2.33	Do.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 12	13	697	1	9.0	.9	1.72	1.43	67.79	1.070	1.54	13.08	2.58	Dark green, starchy.
12	13	698	1	9.2	.9	1.95	1.23	60.89	1.073	1.13	13.21	2.99	Do.
16	13	825	1	7.3	.8	1.43	1.18	66.10	1.072	1.35	13.25	2.61	Do.
16	12	826	1	8.8	.8	2.12	1.38	69.04	1.066	1.24	12.80	2.10	Do.
16	12	827	1	8.9	.8	1.41	1.06	66.04	1.068	1.70	12.00	2.69	Do.
16	14	828	1	8.3	.8	2.01	1.39	64.85	1.075	1.05	14.41	2.49	Do.
20	13	997	1	8.0	.7	1.50	1.26	60.91	1.071	1.26	12.50	3.79	Do.
20	13	998	1	8.3	.9	1.45	1.19	65.13	1.071	1.11	13.44	3.05	Do.
20	14	999	1	8.9	.9	1.88	1.57	64.83	1.073	1.10	14.20	3.06	Do.
20	14	1000	1	8.2	.8	1.67	1.36	62.89	1.074	.90	14.49	3.00	Do.
24	15	1139	1	9.2	.9	1.94	1.52	60.46	1.071	1.46	13.58	2.65	Do.
24	15	1140	1	9.2	.9	1.81	1.30	62.67	1.072	.89	14.11	2.63	Do.
24	15	1141	1	8.7	.9	1.94	1.50	66.72	1.070	.95	13.44	2.99	Do.
24	15	1142	1	8.8	.8	1.87	1.47	64.40	1.070	1.52	12.98	3.21	Do.
Sept. 3	10	1624	1	8.8	1.0	1.96	1.32	66.44	1.058	1.90	11.17	1.77	Dark brown, starchy.
3	11	1625	1	8.4	1.0	1.84	1.33	60.59	1.066	1.36	12.65	2.69	Dark green, starchy.
3	15	1626	1	8.5	1.0	1.83	1.29	66.32	1.070	.93	14.04	2.60	Do.
3	16	1627	1	8.6	1.0	1.87	1.36	65.26	1.073	.92	14.35	2.76	Do.
16	13	2031	1	8.8	.8	2.07	1.57	62.79	1.069	1.23	13.10	2.51	Do.
16	11	2032	1	6.8	.8	1.94	1.36	67.58	1.062	1.27	11.74	2.39	Do.
16	16	2033	1	8.1	.7	1.37	1.06	62.89	1.071	.97	13.54	3.00	Do.
16	16	2034	1	7.6	.8	1.13	1.04	61.65	1.074	1.09	14.05	3.39	Do.
Oct. 4	15	2734	1	8.6	1.0	1.44	1.29	64.39	1.072	1.03	14.00	2.97	Do.
6	16	2789	1	9.3	.8	1.20	1.13	45.50	1.067	1.11	12.14	3.43	Dark olive, starchy.
8	16	2875	1	8.4	.8	1.50	1.08	54.89	1.060	1.86	10.46	2.54	Red.
13	16	2964	1	8.0	.9	1.17	.80	59.94	1.071	1.32	12.72	3.29	Dark olive.
27	....	3263	1	8.7	.8	1.18	1.00	61.32	1.019	.67	2.20	3.12	Cinnamon.
28	17	3301	1	7.6	1.0	1.82	1.60	59.75	1.086	.98	15.20	5.23	Dirty green.
30	17	3332	1	8.5	1.0	1.97	1.23	60.71	1.080	.84	15.69	3.84	Green.
Nov. 2	17	3377	1	9.5	1.1	....	2.29	62.75	1.083	1.64	12.04	6.50	Dark green.
6	18	3445	1	8.7	1.0	.91	.82	62.93	1.072	1.61	12.74	2.93	Dark olive.
8	18	3460	1	7.8	1.0	1.27	1.11	63.56	1.060	1.72	10.46	2.39	Do.
9	18	3471	1	8.5	.9	1.32	1.03	61.75	1.061	3.18	8.62	3.19	Do.
10	18	3500	1	8.8	.8	.93	.78	62.82	1.050	1.50	7.62	4.26	Do.
13	17	3526	1	8.8	1.0	2.45	2.04	65.73	1.081	1.19	14.27	Lost.	Dark green.
15	18	3543	1	9.0	.8	1.45	1.14	66.22	1.070	1.32	12.62	3.05	Dark olive green.

TABLE NO. 6.—EARLY AMBER. S. E. EVANS, MONROE, KANS.

July 15	1	10	2	6.3	0.5	.....	1.42	51.38	1.021	4.22	.60	.49	
16	2	19	2	8.3	.7	1.46	1.17	52.67	1.028	4.38	1.39	1.31	
20	3	61	2	7.5	.6	2.01	1.58	62.13	1.043	4.60	3.71	2.48	
21	4	85	2	7.8	.6	1.53	1.19	56.33	1.035	4.34	3.19	.88	
22	4	88	2	8.3	.7	1.93	1.54	63.36	1.037	4.52	3.61	1.88	
22	5	89	2	8.5	.6	2.32	1.85	57.05	1.045	4.13	5.50	2.04	
22	6	90	2	9.0	.7	2.55	2.09	52.77	1.049	3.76	6.67	2.20	
24	7	134	1	8.2	.7	1.24	.97	67.72	1.041	3.79	5.91	1.51	Light green, starchy.
26	8	182	1	7.8	.7	1.44	1.13	50.89	1.051	2.85	8.82	1.41	Do.
26	9	188	1	7.5	.7	1.16	.92	62.64	1.046	3.94	6.54	1.47	Do.
27	9	229	1	8.2	.7	1.21	.96	60.14	1.052	2.22	8.64	2.78	Do.
29	9	258	1	9.0	.7	1.33	1.12	68.38	1.055	3.22	8.62	2.14	Do.
30	9	296	2	8.4	.6	2.07	1.76	69.17	1.060	3.22	9.49	2.38	Do.
31	10	340	1	8.9	.7	1.26	1.09	68.89	1.060	3.18	9.60	2.69	Do.
Aug. 2	10	365	1	9.6	.9	1.55	1.34	67.05	1.065	3.20	9.89	3.58	Do.
4	10	436	1	8.7	.7	1.68	1.41	69.11	1.066	2.29	11.97	2.99	Do.
6	10	521	1	8.7	.4	1.42	1.21	62.68	1.069	2.48	11.79	2.30	Dark green, starchy.
7	12	551	1	9.0	.7	1.45	1.21	63.14	1.072	1.94	13.18	2.79	Dark green, watery.
9	11	585	1	8.4	.9	1.53	1.28	62.61	1.071	1.83	12.84	3.07	Dark green, starchy.
19	10	939	1	9.2	.8	1.67	1.41	57.97	1.060	1.59	10.72	2.83	Do.
19	15	940	1	8.8	.9	1.71	1.46	56.24	1.079	1.57	14.49	3.31	Do.
20	14	1037	1	9.2	.8	1.62	1.34	60.74	1.072	1.56	(*)	.....	Do.
20	12	1038	1	9.1	.7	1.52	1.22	56.48	1.068	1.54	(*)	.....	Do.
23	12	1123	1	8.5	.8	1.57	1.10	60.62	1.070	1.36	13.78	2.57	Dark brown, starchy.
23	12	1124	1	9.5	.8	1.84	1.37	57.80	1.069	1.43	12.53	3.30	Do.
26	14	1247	1	.8	8	1.45	1.04	58.60	1.072	1.40	13.07	3.30	Do.
26	10	1248	1	9	8	1.40	1.02	58.82	1.058	1.41	10.45	2.60	Do.

*Not inverted.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 3	13	1599	1	8.6	0.8	1.76	1.13	63.10	1.068	.78	12.80	2.99	Dark green, starchy.
3	13	1600	1	9.4	.7	1.81	1.06	57.05	1.066	1.17	11.25	3.72	Dark brown, starchy.
17	13	2102	1	8.5	.8	1.48	.84	60.66	1.069	1.67	11.85	3.60	Do.
18	14	2125	1	10.1	.8	1.52	1.21	60.59	1.073	1.19	12.28	4.42	Dark green, starchy.
18	13	2126	1	9.0	.8	1.45	.96	50.91	1.065	1.39	11.21	3.50	Dark brown, starchy.
23	13	2312	1	9.1	.8	1.08	.73	57.03	1.065	1.44	11.90	2.91	Dark brown; some starch.
23	13	2313	1	8.0	.8	1.28	.76	55.78	1.069	1.45	12.36	3.17	Do.
27	13	2521	1	8.1	.7	1.29	.78	54.49	1.060	1.23	11.52	2.20	Dark green, starchy.
27	16	2522	1	9.0	.8	1.72	1.14	57.36	1.078	.92	15.43	3.05	Dark brown, starchy.
Oct. 1	15*	2707	1	6.5	.8	1.30	.95	56.68	1.068	1.64	12.54	2.87	Do.
6	13	2780	2	8.4	.8	2.34	1.50	62.28	1.062	1.33	10.86	3.20	Brown, starchy.
8	15	2868	1	8.4	.8	1.79	1.03	56.62	1.070	1.52	13.27	2.51	Red.
15	16	3027	1	8.8	.8	1.43	1.08	58.98	1.074	.87	14.21	3.81	Light green.
16	15	3064	1	8.0	.7	2.20	1.36	59.84	1.072	1.52	12.68	4.88	Olive.
22	15	3184	1	8.8	.8	1.14	.90	55.64	1.071	1.27	12.82	3.53	Do.
26	13	3248	1	8.7	.8	1.05	.86	52.82	1.085	1.56	16.31	2.54	Dirty green.
Nov. 4	17	3408	1	8.5	.8	1.32	1.05	58.89	1.079	.94	15.07	2.81	Olive.
6	17	3454	1	7.5	.8	.61	.40	60.00	1.079	3.14	12.12	4.05	Olive green.

TABLE No. 7.—BLACK-TOP SORGHUM. D. W. AIKEN, COKESBURY, S. C.

July 17	1	30	2	5.8	0.8	2.27	1.63	47.07	1.032	2.92	3.88	1.52	
17	2	34	2	6.7	.7	2.39	1.78	52.87	1.024	2.01	3.23	1.81	
20	3	63	2	6.6	.8	2.73	1.97	44.39	1.059	3.88	4.31	1.80	
22	4	112	1	7.4	.9	1.72	1.26	54.93	1.035	1.83	4.84	1.98	
22	5	113	2	6.9	.8	2.86	2.02	46.79	1.045	3.00	5.35	2.29	
22	6	114	1	7.8	.7	1.29	.91	62.65	1.039	2.01	5.82	1.84	
23	7	135	1	8.7	.6	1.21	.89	66.49	1.048	2.06	7.90	2.11	Light green, starchy.
26	8	183	1	7.4	.8	1.66	1.21	59.90	1.046	1.97	7.78	1.48	Do.
26	9	186	2	6.8	.7	1.90	1.32	57.52	1.051	1.31	9.49	2.04	Do.
27	9	230	2	7.2	.6	2.15	1.54	59.13	1.057	1.09	10.05	3.29	Do.
29	9	259	1	7.3	.8	1.97	1.41	66.75	1.049	1.26	8.25	2.74	Dark green.
30	9	299	1	9.2	.7	1.91	1.43	63.72	1.052	1.96	9.49	1.51	Do.
31	9	341	1	8.1	.6	1.10	.88	63.59	1.067	3.42	10.56	2.80	Light green.
Aug. 3	9	396	1	7.4	.7	1.00	.73	65.30	1.061	1.35	11.36	2.37	Light green, starchy.
4	10	438	1	7.0	.7	1.59	1.16	66.92	1.060	.75	11.70	2.36	Do.
7	10	552	1	6.9	.6	1.07	.74	67.06	1.059	1.31	10.53	2.89	Dark green, watery.
9	9	587	1	8.0	.8	1.88	1.34	64.53	1.065	1.20	12.29	3.04	Dark green, some starch.
19	10	945	1	7.6	.7	1.43	.92	65.02	1.058	1.55	10.39	2.47	Dark green, starchy.
19	10	946	1	7.5	.7	1.72	1.29	58.84	1.076	1.34	14.07	3.50	Do.
19	11	947	1	7.6	.7	1.37	.96	59.70	1.071	.58	13.64	3.38	Do.
19	11	948	1	7.0	.8	1.30	.89	59.75	1.078	.99	13.33	4.78	Do.
23	12	1119	1	7.0	.6	1.15	.76	64.93	1.065	.80	12.55	2.80	Do.
23	12	1120	1	7.8	.9	1.53	1.23	62.14	1.078	.74	14.61	3.85	Do.
26	13	1243	1	7.1	.8	1.45	.88	61.29	1.074	.73	14.89	1.88	Do.
26	13	1244	1	7.2	.6	1.17	.73	60.76	1.069	.94	12.89	2.91	Do.
Sept. 3	15	1595	1	8.3	.7	1.68	1.05	67.01	1.061	.85	11.21	2.93	Do.
3	15	1596	1	8.7	.9	1.99	1.44	60.24	1.079	.52	14.14	4.20	Do.
8	15	1804	1	8.3	.8	2.17	1.23	58.92	1.072	.54	12.82	4.04	Dark green, some starch.
8	15	1805	1	6.6	.7	1.05	.60	61.33	1.071	1.21	13.01	3.14	Do.
17	15	2103	1	7.5	.7	1.43	.81	52.73	1.074	1.22	13.71	2.71	Dark green, starchy.
17	15	2104	1	8.0	.8	1.38	.90	56.72	1.052	1.54	8.74	2.79	Do.
23	16	2308	1	7.4	.8	1.60	.85	63.70	1.064	.52	13.01	2.45	Dark green, some starch.
23	16	2309	1	7.0	.8	1.30	.76	58.79	1.072	.83	13.39	3.08	Do.
27	16	2517	1	6.6	.8	1.28	.74	59.64	1.058	2.30	10.00	1.92	Dark green, starchy.
27	16	2518	1	7.1	.7	1.03	.69	51.74	1.068	1.09	12.75	2.45	Do.
Oct. 1	16*	2709	1	4.8	.8	1.24	.88	54.72	1.068	1.05	13.36	2.59	Green.
6	16	2778	1	9.6	.9	1.57	1.08	59.95	1.071	.84	13.50	3.04	Dark green, starchy.
8	16	2866	1	7.1	.8	1.20	.74	64.28	1.070	1.51	12.04	6.41?	Green.
15	17†	3025	1	9.1	.9	1.99	1.31	59.93	1.077	.46	14.55	4.95	Dark green.
16	17	3062	1	9.0	1.0	1.89	1.11	60.20	1.072	.60	14.33	9.52?	Do.
22	17	3182	1	8.0	.8	1.74	.90	59.80	1.076	.46	15.45	3.75	Do.
26	18	3246	1	8.0	.9	1.50	.97	60.68	1.066	3.17	11.59	1.58	Do.

*Topped August 28. †Topped

ANALYSES OF JUICES FROM SORGHUM—Continued.

TABLE No. 8.—AFRICAN SORGHUM. WILLIAM E. PARKS, CARLISLE, KY.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 17	1	33	2	7.5	0.8	2.66	2.07	58.49	1.027	2.92	2.98	1.53	
17	2	37	1	8.4	.9	2.07	1.63	51.74	1.029	4.25	1.76	1.84	
19	3	40	2	8.5	.9	3.85	3.00	38.15	1.031	4.67	1.73	1.34	
19	4	41	2	8.8	.7	2.33	1.82	46.59	1.042	2.46	6.18	1.77	
23	4	131	1	8.0	.9	1.89	1.53	52.98	1.030	4.10	1.87	1.65	Light green.
24	5	59	1	8.6	.7	1.34	1.03	52.40	1.037	5.49	2.21	.64	Do.
23	5	132	1	9.1	.7	1.28	.98	61.12	1.040	3.26	5.47	1.66	Do.
21	6	81	2	8.7	.7	3.05	2.33	47.45	1.044	3.62	5.66	1.97	Do.
23	7	126	1	8.8	.7	1.51	1.17	52.63	1.041	3.85	4.67	1.52	Do.
26	8	174	1	7.7	.7	1.43	1.05	56.62	1.054	2.67	8.96	2.32	Dark green.
27	9	225	1	7.4	.7	1.23	.90	60.27	1.049	3.16	6.89	2.53	Lighter green, starchy.
31	9	325	1	8.8	.8	1.59	1.23	64.63	1.061	1.42	11.13	2.72	Dark green, starchy.
29	10	252	1	11.5	.8	1.94	1.43	48.00	1.052	1.56	7.78	3.34	Do.
30	10	286	1	8.6	.9	1.75	1.33	61.88	1.066	1.92	10.05	4.65	Do.
Aug. 2	10	358	1	8.6	.7	1.27	1.04	65.25	1.066	2.19	11.26	2.87	Light green, starchy.
4	10	429	1	7.0	.7	1.22	.85	69.74	1.034	3.23	3.86	1.52	Do.
6	10	512	1	9.6	1.1	1.94	1.56	68.21	1.060	2.64	10.24	2.43	Dark green, starchy.
7	10	540	1	9.2	.6	1.30	1.01	65.43	1.058	2.87	9.36	2.33	Do.
9	11	574	1	8.6	.6	.97	.76	32.46	1.066	1.45	12.21	2.98	Do.
4	9	445	1	8.2	.7	1.16	.96	59.47	1.068	1.02	13.12	2.71	Light green, starchy.
4	9	446	1	9.0	.8	1.61	1.18	68.03	1.066	.76	12.48	2.94	Do.
4	9	447	1	9.3	.7	1.60	1.17	32.83	1.066	1.36	12.27	2.65	Do.
4	9	448	1	9.1	.7	1.44	1.17	63.72	1.062	.82	11.81	2.62	Do.
10	9	614	1	8.4	.8	1.30	.97	67.50	1.055	1.20	9.82	1.88	Light green, watery.
10	9	615	1	8.6	.9	1.86	1.35	62.61	1.070	1.12	13.39	2.64	Light green, starchy.
10	9	616	1	9.7	.8	1.93	1.49	66.71	1.067	1.34	12.30	2.73	Do.
10	9	617	1	8.9	.9	1.57	1.14	66.34	1.068	2.66	10.01	2.08	Do.
13	11	740	1	8.9	.7	1.46	1.03	68.52	1.065	3.40	10.46	2.10	Do.
13	11	741	1	8.4	.8	1.25	.94	71.56	1.065	1.17	12.63	1.96	Do.
13	11	742	1	9.0	.6	1.34	.95	69.07	1.057	.96	10.77	2.22	Do.
13	11	743	1	8.0	.9	1.59	1.21	69.18	1.056	.74	10.60	2.20	Do.
17	11	871	1	9.6	.8	1.71	1.26	62.59	1.073	.72	12.85	4.04	Dark green, starchy.
17	11	872	1	9.1	.8	1.54	1.25	66.14	1.075	1.20	13.39	3.74	Do.
17	11	873	1	10.6	1.0	2.11	1.79	66.87	1.077	1.02	13.20	4.40	Do.
17	11	874	1	8.6	.8	1.40	1.08	64.59	1.078	.51	14.67	3.56	Do.
21	12	1052	1	7.5	.8	1.66	1.25	66.67	1.061	2.21	10.36	2.93	Do.
21	12	1053	1	9.0	.8	1.28	.97	57.40	1.064	1.64	11.25	3.37	Do.
21	12	1054	1	8.3	.9	1.51	1.16	65.71	1.062	3.61	9.48	2.43	Do.
21	12	1055	1	7.6	.8	1.38	.99	63.93	1.063	1.59	11.00	2.81	Do.
24	13	1183	1	9.0	.9	2.35	1.65	64.67	1.069	2.71	11.62	2.65	Do.
24	13	1184	1	8.0	1.0	1.97	1.42	66.05	1.063	2.56	10.30	2.67	Do.
24	13	1185	1	8.5	.9	2.08	1.38	69.11	1.044	1.46	7.60	2.10	Do
24	13	1186	1	8.5	.9	1.89	1.41	63.91	1.078	.68	14.55	3.88	Do.
27	14	1315	1	9.4	.9	2.32	1.61	63.28	1.074	.75	13.55	4.04	Do.
27	14	1316	1	8.2	.9	1.62	1.17	66.63	1.057	2.31	9.45	3.45	Do.
27	14	1317	1	9.1	.9	1.67	1.25	67.01	1.064	1.82	11.28	3.74	Do.
27	14	1318	1	9.0	1.0	2.29	1.64	65.32	1.071	.87	12.92	3.81	Do.
Sept. 1	15	1535	1	6.5	.7	1.06	.73	64.16	1.050	3.37	6.86	2.20	Dark green, some starch.
1	15	1536	2	7.5	.7	2.49	1.57	49.93	1.061	1.40	10.94	3.12	Do.
1	15	1537	1	7.9	.9	1.72	1.19	54.63	1.060	1.53	10.44	2.60	Do.
1	15	1538	1	8.1	.9	1.65	1.27	60.24	1.074	.86	13.40	3.62	Do.
4	15	1684	1	9.5	.9	1.87	1.34	60.59	1.071	1.21	12.35	3.80	Dark green, starchy.
4	15	1685	1	8.5	.9	1.67	.99	62.83	1.058	.59	11.00	2.92	Do.
4	15	1686	1	9.3	.8	1.75	1.31	62.18	1.072	1.03	12.98	3.76	Do.
4	15	1687	1	7.1	.7	1.00	.73	61.85	1.046	3.42	6.51	2.35	Dark brown, starchy.
9	16	1884	1	9.5	.7	1.66	1.20	55.33	1.067	.77	12.04	3.59	Dark green, starchy.
9	16	1885	1	10.0	1.0	2.31	1.74	64.14	1.074	.55	13.75	3.90	Do.
9	16	1886	1	9.7	.9	1.61	1.17	64.91	1.068	.50	11.91	3.88	Do.
9	16	1887	1	9.0	.7	1.47	.98	61.57	1.068	.99	11.58	3.39	Do.
17	16	2078	1	10.1	1.2	3.08	2.17	68.67	1.081	.79	16.00	2.96	Do.
17	16	2079	1	9.0	1.0	1.47	1.31	66.94	1.075	1.98	14.32	2.30	Do.
17	16	2080	1	10.0	1.0	2.59	1.51	63.66	1.072	.74	13.00	3.84	Do.
17	16	2081	1	9.0	1.1	2.55	1.69	63.37	1.076	.79	12.72	4.92	Do.
20	16	2192	1	7.1	.8	1.60	.98	64.71	1.052	.62	9.75	2.70	Do.
20	16	2193	1	10.2	1.1	2.55	1.56	59.83	1.072	.79	13.65	3.52	Do.
20	16	2194	1	6.6	.9	1.31	1.09	62.27	1.075	.91	14.37	3.42	Do.
20	16	2195	1	7.6	.9	2.05	1.23	53.50	1.074	.49	13.69	4.08	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 24	16	2423	1	8.1	0.9	1.78	.88	66.25	1.079	.72	14.66	3.84	Dark green, starchy.
24	16	2424	1	7.0	.8	1.15	.71	59.89	1.072	1.07	12.95	3.38	Do.
24	16	2525	1	9.4	.8	1.47	.92	61.24	1.065	.76	12.12	3.08	Do.
24	16	2426	1	6.2	.8	.67	.45	61.95	1.034	2.36	9.13	2.37	Do.
28	16	2606	1	8.8	.9	2.14	1.15	58.62	1.069	.89	12.58	3.27	Thin, watery.
28	16	2607	1	10.5	.9	2.24	1.50	63.48	1.074	.58	14.20	2.99	Do.
28	16	2608	1	9.1	.8	1.28	.91	60.04	1.070	2.77	11.97	2.22	Do.
28	16	2609	1	7.5	.8	1.68	1.03	57.02	1.076	.81	14.72	2.73	Do.
Oct. 1	16*	2695	1	7.8	1.0	1.56	1.28	65.04	1.073	1.18	13.56	3.48	Dark green.
4	16	2745	1	8.3	1.0	2.31	1.50	63.73	1.074	.71	14.59	3.42	Very light green.
7	16	2813	1	8.0	.8	1.19	.72	60.39	1.068	1.12	12.50	2.91	
11	16	2905	1	7.3	.8	1.52	1.06	58.68	1.081	.....	.....	.....	Dark green.
13	16	2975	1	8.1	.6	1.12	.66	58.00	1.073	.68	12.97	3.77	Dark olive.
15	17	3004	2	8.8	.7	1.67	1.35	60.49	1.076	1.57	13.35	4.92	Dark green.
16	17	3044	1	8.6	.8	1.12	.82	67.38	1.076	.55	14.04	4.18	Do
19	17	3101	1	8.9	.9	1.65	1.20	52.93	1.075	1.72	13.11	3.77	Dark olive.
20	17	3128	1	7.5	1.1	1.86	1.41	59.80	1.070	1.32	12.72	3.95	Do.
22	17	3163	1	9.4	.8	.99	.85	54.55	1.092	2.75	14.76	4.70	Dirty green.
25	17	3218	1	7.9	.8	1.18	.90	59.02	1.072	1.14	13.10	3.48	Do.
27	17	3274	1	9.7	.9	1.42	1.05	55.04	1.083	1.54	15.31	3.32	Dark green.
29	17	3313	1	7.4	.8	1.29	.91	63.77	1.075	1.08	12.96	3.45	Dirty green.
30	18	3343	1	9.0	.9	1.86	1.21	64.00	1.068	1.40	12.68	3.10	Light green.
Nov. 3	18	3392	1	7.3	.9	1.01	.77	56.29	1.062	1.32	9.92	3.92	Olive.
5	18	3428	1	8.2	.6	1.03	.89	61.82	1.072	1.53	13.55	3.15	Dark green.
9	18	3482	1	8.0	.9	1.43	.96	63.01	1.071	1.72	12.30	3.11	Dirty green.
12	18	3506	1	9.3	.6	1.16	.94	61.65	1.070	1.52	11.83	3.02	Brown.
15	18	3536	1	8.0	1.0	1.35	1.18	68.79	1.068	2.53	11.77	2.48	Light olive.

TABLE NO. 9.—WHITE MAMMOTH. E. LINK, GREENEVILLE, TENN.

Aug. 2	1	369	1	8.7	0.8	1.64	1.32	70.98	1.031	2.95	3.05	2.10	Light green.
3	2	397	1	8.9	.8	1.63	1.32	71.33	1.033	3.03	3.88	1.71	Light green, starchy.
4	2	439	1	9.3	.7	1.79	1.45	73.23	1.031	2.81	3.57	1.77	Do.
9	3	588	1	9.9	.7	1.75	1.41	69.84	1.042	2.68	6.13	2.23	Dark green, watery.
18	4	933	1	8.4	.6	.86	.66	66.67	1.048	3.22	6.89	2.01	Dark green, starchy.
18	4	934	1	9.4	.5	.80	.62	68.02	1.050	2.98	7.40	2.14	Do.
18	4	935	1	8.8	.5	.85	.67	66.11	1.051	3.04	7.58	2.08	Do.
18	4	936	1	8.4	.6	.81	.64	68.96	1.045	3.28	6.39	1.86	Do.
23	7	1125	2	9.5	.7	2.75	2.21	69.15	1.058	2.47	10.17	2.01	Do.
23	7	1126	1	9.4	.7	1.25	.94	66.98	1.052	3.41	8.30	1.60	Do.
23	7	1127	2	8.5	.8	2.18	1.70	66.98	1.055	3.15	9.36	1.57	Do.
23	7	1128	1	10.0	.8	1.52	1.21	68.89	1.057	2.50	9.99	2.17	Do.
26	8	1249	1	10.5	.9	1.76	1.41	68.98	1.049	2.13	8.27	2.04	Do.
26	8	1250	1	9.5	.8	1.49	1.63	69.87	1.059	2.44	10.02	2.03	Do.
26	9	1251	1	10.0	.9	2.26	1.09	65.72	1.053	1.96	9.30	1.99	Do.
26	9	1252	1	10.4	.9	1.82	1.35	70.41	1.061	1.93	10.45	2.61	Do.
Sept. 3	10	1601	1	10.4	.8	1.50	1.23	68.95	1.055	1.48	10.43	2.31	Do.
3	10	1602	1	9.6	.8	1.74	1.36	69.35	1.060	1.59	10.61	2.71	Do.
3	10	1606	1	9.7	1.0	2.09	1.70	68.56	1.064	1.79	11.41	2.87	Do.
3	10	1607	1	9.7	1.0	1.71	1.36	66.12	1.067	1.69	12.65	2.44	Do.
8	11	1806	1	9.4	.7	1.73	1.35	52.77	1.060	1.43	11.41	2.21	Dark green, some starch.
8	11	1807	1	9.8	.8	1.84	1.56	66.80	1.069	1.41	12.94	2.68	Do.
8	11	1813	1	9.0	.9	1.63	1.36	61.00	1.072	1.70	12.33	3.80	Do.
8	11	1814	1	9.3	.9	1.71	1.37	47.51	1.073	1.29	12.81	1.19	Do.
18	12	2127	2	10.0	.8	3.04	2.49	62.28	1.072	.90	12.24	4.54	Dark green, starchy.
18	12	2128	1	9.8	.9	2.02	1.73	61.65	1.072	1.11	12.45	4.40	Do.
18	12	2129	1	9.3	.8	1.52	1.30	60.00	1.070	1.40	12.54	3.68	Do.
18	12	2130	1	10.0	.9	2.21	1.92	62.89	1.073	1.16	11.87	5.38	Do.
23	13	2314	1	10.6	.9	1.73	1.53	62.59	1.066	1.10	12.94	2.28	Dark green, some starch.
23	13	2315	1	9.3	.9	1.81	1.44	51.52	1.069	.95	13.45	2.53	Do.
23	13	2316	1	9.3	1.0	1.83	1.54	61.90	1.082	.89	15.42	3.47	Do.
23	13	2317	1	10.0	1.0	2.09	1.73	63.70	1.080	.88	13.90	4.48	Do.
23	13	2316	...	...	...	.....	.....	.....	1.075	.93	14.36	2.94	Do.
27	14	2523	1	10.0	.9	1.81	1.49	58.27	1.082	.73	15.55	3.50	Dark green, starchy.
27	14	2524	1	10.3	.9	1.98	1.65	63.73	1.077	.93	14.91	7.42?	Do.
27	14	2525	1	8.8	.9	1.51	1.21	63.38	1.078	1.00	15.09	3.02	Do.
27	14	2526	1	9.7	.9	1.82	1.50	62.42	1.081	.88	16.15	2.95	Do.

*Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 1	15*	2710	1	8.5	0.8	1.60	1.46	63.44	1.076	1.89	13.83	5.47	Green.
6	15	2781	1	10.0	.9	1.61	1.34	58.97	1.082	.59	15.68	3.59	Dark green, starchy.
8	15	2869	1	10.0	.8	1.76	1.48	65.77	1.073	.91	13.57	3.37	Green.
12	15	2940	1	9.7	.9	1.91	1.50	64.71	1.080	.94	14.28	4.03	Light green, starchy.
14	15	3002	1	9.3	.9	1.87	1.51	60.29	1.090	1.15	16.12	4.39	Dark green.
15	13	3028	1	10.5	.7	1.56	1.23	66.07	1.072	.79	13.54	3.82	Do.
16	16	3066	1	10.0	.9	2.01	1.51	63.95	1.079	1.55	7.22?	11.03?	Light green.
22	16	3186	1	10.4	.9	1.69	1.36	61.34	1.078	.71	15.04	2.81	Olive.
26	16	3250	1	9.3	.9	1.36	1.24	62.30	1.081	1.30	15.08	3.44	Dark green.
Nov. 4	17	3409	1	9.0	1.3	1.69	1.56	61.27	1.075	.62	14.39	3.16	Do.
6	17	3455	1	9.0	1.0	2.33	2.00	64.40	1.071	1.10	13.13	3.46	Do.

TABLE No. 10.—OOMSEEANA. BLYMYER & CO., CINCINNATI, OHIO.

July 15	1	16	2	6.3	0.6	.....	1.82	31.60	1,023	2.84	1.55	2.30	
15	2	12	2	5.7	.8	.....	1.32	51.83	1.030	4.82	1.46	.99	
20	3	56	1	9.9	.7	1.19	1.07	58.60	1.027	2.85	2.26	1.79	
21	4	79	2	7.4	.8	2.32	1.82	57.10	1.030	3.03	2.71	1.98	
21	5	80	2	7.2	.8	2.86	2.22	42.80	1.035	2.57	4.33	1.84	
22	6	93	1	8.6	.8	1.63	1.18	60.06	1.039	1.76	6.23	1.97	
24	6	138	1	7.7	.9	1.64	1.21	70.53	1.032	4.14	2.28	1.82	Light green.
22	7	94	1	6.4	.8	1.56	1.16	65.20	1.030	3.88	3.19	1.67	
24	7	139	1	8.4	.7	1.40	.97	60.25	1.035	3.48	3.35	2.40	Light green.
23	8	122	1	9.4	.8	1.93	1.50	58.88	1.041	2.11	6.29	2.02	Do.
26	9	169	1	10.7	1.1	2.84	2.31	59.61	1.037	2.83	4.35	1.74	Dark green.
27	9	217	1	9.7	.9	2.16	1.56	65.44	1.042	3.42	4.66	2.86	Do.
28	10	244	1	9.5	.7	1.38	1.16	62.40	1.047	.96	8.10	2.78	Dark green, starchy.
30	10	280	1	8.2	.9	2.17	1.71	63.23	1.050	3.21	6.56	2.71	Do.
31	10	317	1	7.4	.6	1.18	.90	66.34	1.051	2.53	8.10	2.36	Do.
Aug. 2	10	351	1	9.3	.7	1.30	1.01	67.69	1.055	3.00	8.30	1.88	Light green, starchy.
4	10	424	1	6.7	.7	1.25	.86	65.82	1.041	1.69	6.38	2.06	Dark green, starchy.
6	9	506	1	8.5	1.1	1.69	1.28	65.06	1.059	3.02	9.02	2.59	Do.
7	10	530	1	7.5	.9	1.76	1.36	79.42?	1.049	2.09	7.69	2.57	Light green, starchy.
9	9	567	1	8.0	1.0	2.42	1.78	68.56	1.053	3.46	7.88	2.29	Do.
5	10	457	1	7.2	.9	1.09	.79	70.87	1.033	2.38	3.55	2.44	Dark green, starchy.
5	10	458	1	9.4	1.0	1.45	1.16	67.30	1.057	1.15	9.96	3.18	Do.
5	10	459	1	9.0	.9	1.41	1.13	68.62	1.061	2.16	9.81	3.11	Do.
5	10	460	1	8.0	1.1	1.78	1.25	69.30	1.054	1.75	8.81	2.82	Do.
10	10	630	1	9.0	.7	1.54	1.22	64.14	1.068	.88	13.52	2.38	Do.
10	10	631	1	8.2	.8	1.27	1.02	67.53	1.061	1.91	10.94	2.28	Do.
10	10	632	1	7.8	.6	.98	.72	91.79?	1.054	3.47	8.39	1.19	Do.
10	10	633	1	7.6	.9	1.42	1.01	64.10	1.052	3.09	7.25	2.35	Do.
12	10	711	1	7.5	.9	1.56	1.13	68.66	1.046	2.66	7.17	1.50	Do.
12	10	712	1	8.2	.9	1.58	1.10	81.57?	1.051	2.71	8.20	1.84	Do.
12	10	713	1	9.1	1.0	1.75	1.39	72.06	1.057	3.31	7.53	3.40	Do.
12	10	714	1	7.7	.9	1.74	1.17	67.79	1.053	2.83	7.80	2.43	Do.
16	10	841	1	7.3	.8	1.49	.95	69.12	1.035	2.45	4.42	2.02	Do.
16	10	842	1	8.2	1.0	1.82	1.34	52.29	1.045	3.44	6.30	1.36	Do.
16	10	843	1	8.9	.9	1.38	1.03	69.09	1.057	1.52	10.21	1.99	Do.
16	10	844	1	8.1	.8	1.99	1.46	65.65	1.062	1.08	11.30	2.36	Do.
20	11	1013	1	7.9	.8	1.29	.98	69.66	1.058	.63	11.38	2.55	Do.
20	11	1014	1	8.9	.8	1.51	1.17	67.55	1.062	2.10	11.09	2.63	Do.
20	11	1015	1	7.5	1.0	1.84	1.25	68.46	1.056	.96	9.99	3.11	Do.
20	11	1016	1	8.2	1.0	1.69	1.27	68.70	1.042	3.19	5.50	2.25	Do.
24	12	1155	1	8.6	.9	1.96	1.36	64.51	1.065	1.64	12.41	2.01	Do.
24	12	1156	1	8.6	.8	1.70	1.24	70.91	1.074	.80	14.97	2.53	Do.
24	12	1157	1	7.1	.9	1.51	1.10	65.63	1.065	1.25	12.27	2.30	Do.
24	12	1158	1	8.5	.9	1.88	1.35	65.08	1.065	3.05	10.01	3.04	Do.
26	13	1284	1	9.0	1.0	1.99	1.38	66.06	1.060	2.15	10.21	2.26	Do.
26	13	1285	1	10.0	.9	1.56	1.28	59.95	1.075	1.40	13.26	3.63	Do.
26	13	1286	1	7.6	1.0	1.77	1.28	68.10	1.062	.53	11.75	2.64	Do.
26	13	1287	1	8.6	.7	1.77	1.17	67.23	1.068	2.53	10.51	2.98	Do.
Sept. 1	14	1507	1	8.2	.8	1.66	1.25	53.86	1.076	.76	14.18	3.88	Dark green, some starch.
1	14	1508	1	8.5	.7	1.51	1.07	Lost.	1.071	.65	13.44	3.65	Do.
1	14	1509	1	8.2	.8	1.52	1.16	63.80	1.070	.64	13.48	3.54	Do.
1	14	1510	1	9.1	.8	1.83	1.41	65.31	1.070	1.02	13.04	3.42	Do.
4	14	1651	1	6.6	.6	.83	.62	64.00	1.036	2.65	4.50	1.83	Dark green, starchy.

*Topped August 23.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 4	14	1652	1	8.6	0.9	1.95	1.36	61.69	1.064	.92	12.79	1.70	Dark green, starchy.
4	14	1653	1	7.3	.7	1.28	.89	64.77	1.060	2.89	9.94	2.08	Do.
4	14	1654	1	7.0	.9	1.30	.90	64.87	1.054	2.64	9.09	2.03	Do.
9	15	1856	1	8.4	.9	2.22	1.60	64.41	1.068	1.44	13.38	1.66	Dark green, some starch.
9	15	1857	1	8.6	.9	1.59	1.06	62.86	1.064	2.88	11.22	2.64	Do.
9	15	1858	1	8.4	.9	1.72	1.20	64.10	1.063	1.23	11.38	2.96	Dark brown, starchy.
9	15	1859	1	10.0	1.0	2.21	1.59	63.66	1.074	.90	12.35	5.05	Dark green, starchy.
16	15	2047	1	7.8	.8	1.44	1.04	63.50	1.055	2.20	9.16	2.20	Dark brown, starchy.
16	15	2048	1	9.1	.7	1.65	1.13	60.19	1.065	.73	11.60	3.07	Dark green, starchy.
16	15	2049	1	9.6	.9	1.92	1.49	63.72	1.082	.81	14.95	3.56	Do.
16	15	2050	1	8.9	1.0	2.24	1.76	65.59	1.072	1.15	13.21	2.90	Do.
20	16	2164	1	9.5	1.0	2.46	1.73	60.38	1.076	1.58	14.51	2.82	Do.
20	16	2165	1	7.9	.9	1.29	.92	62.50	1.066	.70	12.92	2.70	Do.
20	16	2166	1	7.8	.9	1.47	1.04	62.70	1.066	1.14	12.38	2.90	Do.
20	16	2167	1	10.0	1.0	2.11	1.56	62.20	1.075	.79	14.27	3.45	Do.
24	16	2395	1	11.2	.8	1.54	1.15	61.83	1.075	.74	12.77	4.77	Dark green, some starch.
24	16	2396	1	8.0	.9	1.52	.97	62.25	1.063	1.05	11.40	3.59	Do.
24	16	2397	1	9.0	.9	1.96	1.34	61.26	1.062	.64	11.45	3.30	Do.
24	16	2398	1	8.1	.9	2.02	1.17	61.28	1.081	.59	14.44	4.91	Do.
27	16	2558	1	6.5	.8	1.01	.63	69.21	1.047	.72	7.37	3.28	Dark green, starchy.
27	16	2559	1	10.0	1.0	1.72	1.36	62.58	1.068	.43	12.26	3.97	Do.
27	16	2560	1	9.7	.8	1.43	1.04	61.93	1.071	.47	13.26	3.54	Do.
27	16	2561	1	7.3	.9	1.54	.98	62.86	1.071	.94	13.19	3.28	Do.
30	16*	2688	1	7.5	1.2	2.20	2.12	64.65	1.075	1.29	14.33	2.94	Do.
Oct. 4	16	2738	1	9.8	.8	1.42	1.04	60.38	1.082	1.12	15.51	3.98	Do.
6	16	2793	1	8.8	1.0	1.47	1.01	68.34	1.072	1.33	12.65	3.58	Do.
11	16	2898	1	7.3	.9	1.65	.95	66.82	1.074	.....	.....	.....	Do.
13	16	2968	1	8.6	.8	1.18	.72	60.97	1.080	1.13	14.05	3.73	Dark olive.
14	17	2994	1	8.5	.9	1.08	.94	66.82	1.071	1.11	13.18	3.09	Dark green.
15	17	3036	1	8.9	.8	1.16	.73	60.00	1.072	2.59	13.05	2.27	Do.
17	17	3092	1	9.4	.8	1.36	1.01	64.35	1.071	3.12	11.83	3.21	Do.
19	17	3118	1	6.1	.8	1.10	.70	61.56	1.071	1.14	12.61	3.30	Do.
21	18	3151	1	9.4	.9	1.32	1.13	60.89	1.076	.55	13.82	5.01	Light green.
25	17	3211	1	8.9	.8	1.01	.85	60.88	1.064	2.70	10.38	3.65	Dirty light green.
27	18	3267	1	11.0	1.2	2.29	1.71	70.06	1.085	.78	14.97	5.14	Dark green.
28	18	3305	1	8.8	1.0	1.56	1.17	60.90	1.084	1.40	12.59	6.54	Dirty green.
30	17	3336	1	6.4	.9	.97	.84	68.55	1.057	1.67	8.47	1.78	Do.
	18†	3381	1	.....	1.0	.....	1.69	66.32	1.076	2.27	13.08	3.12	Dark green.
6	18	3449	1	8.7	.8	1.26	.92	63.55	1.074	.59	14.19	3.33	Do.
8	18	3464	1	9.5	.9	1.89	1.44	60.03	1.083	.85	15.00	3.90	Do.
9	18	3475	1	9.3	.8	1.06	1.02	67.03	1.062	.59	11.63	3.27	Do.
10	18	3496	1	9.0	.8	.95	.77	65.80	1.065	2.22	10.54	3.69	Olive.
13	18	3530	1	9.5	.9	1.67	1.35	64.23	1.079	1.52	13.75	Lost.	Dark green.

TABLE No. 11.—REGULAR SORGO. BLYMYER & CO., CINCINNATI, OHIO.

July 19	1	46	2	7.5	1.0	3.45	2.61	45.48	1.030	4.76	1.07	2.66	
20	2	65	1	7.5	.9	2.05	1.46	57.10	1.031	2.97	3.18	1.39	
22	3	100	1	9.3	1.1	2.63	2.13	59.28	1.030	4.64	.55	2.38	
24	3	145	2	8.7	.9	3.51	2.66	47.64	1.033	3.90	2.53	2.09	Light green.
22	4	101	1	9.4	.9	2.20	1.60	55.32	1.035	4.58	.26	4.38	
24	4	146	2	9.2	.9	3.90	3.03	45.84	1.032	4.51	2.18	1.59	Darker green.
23	5	127	1	7.5	.8	1.56	1.27	46.25	1.042	3.75	4.62	1.95	Light green.
23	6	128	1	9.2	.7	1.02	.74	56.74	1.044	3.45	5.55	2.40	Light green, starchy.
26	7	175	1	8.2	.8	1.14	.99	56.67	1.045	4.01	5.97	.35	Dark green, starchy.
29	7	255	1	9.7	1.0	2.13	1.71	64.41	1.056	3.27	8.09	.57	Do.
29	8	253	1	9.2	.9	1.78	1.33	63.70	1.051	3.64	6.37	2.69	Do.
30	9	287	1	10.0	.8	1.91	1.50	64.90	1.055	3.71	7.42	2.61	Do.
31	9	326	1	9.5	.8	1.45	1.12	68.37	1.054	3.56	7.10	2.95	Do.
Aug. 2	10	359	1	9.2	.9	1.75	1.34	67.76	1.058	3.18	8.84	3.01	Light green, starchy.
4	9	430	1	9.2	.8	.90	.60	50.18	1.060	1.80	10.76	2.06	Do.
6	9	513	1	10.5	.9	1.66	1.30	64.24	1.059	2.81	9.11	2.91	Dark green, starchy.
7	10	541	1	8.0	.7	1.09	.82	65.59	1.060	2.81	9.58	2.52	Light green, watery.
9	9	575	1	10.0	1.0	2.15	1.62	65.44	1.057	2.81	9.28	2.48	Dark green, starchy.
4	9	449	1	8.6	.7	1.29	.97	70.59	1.052	2.73	8.10	2.05	Light green, starchy.
4	9	450	1	8.8	.8	1.65	1.19	66.05	1.057	3.05	8.67	2.57	Do.

* Topped August 28.

† Stripped and topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 4	9	451	1	10.2	0.9	1.36	1.09	49.70	1.060	1.33	10.77	2.76	Light green, starchy.
4	9	452	1	9.7	.8	1.66	1.28	67.01	1.052	3.51	7.68	1.88	Do.
13	9	744	1	11.3	1.2	2.45	1.95	69.38	1.060	2.20	10.63	2.31	Dark green, starchy.
13	9	745	1	9.8	1.0	2.00	1.57	65.94	1.067	2.28	11.82	2.58	Do.
13	9	746	1	9.5	.9	1.31	.80	45.75	1.069	.56	12.64	3.55	Do.
13	9	747	1	9.0	1.0	1.75	1.40	59.50	1.070	1.30	13.31	2.59	Do.
17	10	875	1	9.6	.9	1.85	1.36	65.07	1.065	2.24	11.35	2.37	Do.
17	10	876	1	10.0	1.0	1.96	1.49	63.78	1.067	1.74	13.30	1.27	Do.
17	10	877	1	10.6	.9	1.88	1.43	62.31	1.063	2.26	11.13	2.19	Do.
17	10	878	1	9.9	1.0	1.80	1.37	62.52	1.067	.88	12.67	2.80	Do.
21	11	1056	1	10.6	.8	1.29	.81	51.21	1.058	1.44	10.19	2.83	Do.
21	11	1057	1	9.2	1.0	2.03	1.41	69.84	1.056	2.13	9.44	2.49	Do.
21	11	1058	1	10.2	.9	1.74	1.34	62.29	1.062	1.74	10.62	3.04	Do.
21	11	1059	1	10.0	1.0	1.63	1.07	67.93	1.050	1.90	7.65	2.88	Do.
25	11	1189	1	10.0	.9	1.55	1.09	69.29	1.056	1.16	10.58	2.09	Do.
25	11	1190	1	9.3	.9	1.56	1.09	63.84	1.060	1.71	11.21	1.84	Do.
25	11	1191	1	9.9	1.0	1.86	1.35	66.50	1.063	2.27	10.87	2.48	Do.
25	11	1192	1	9.5	.9	1.37	.92	64.63	1.065	2.75	11.37	2.08	Do.
27	12	1319	1	10.0	1.1	2.12	1.55	62.83	1.068	1.35	12.11	3.58	Do.
27	12	1320	1	8.8	.9	1.76	1.19	61.00	1.058	1.56	10.06	2.98	Do.
27	12	1321	1	9.3	.8	1.24	.92	66.18	1.063	1.36	10.81	2.67	Do.
27	12	1322	1	9.1	.8	1.08	1.76	50.00	1.063	1.28	10.22	3.02	Do.
28	13	1341	1	9.6	1.0	2.13	1.54	62.92	1.065	1.63	11.61	2.91	Do.
28	13	1342	1	9.1	.9	1.50	1.00	59.80	1.070	.54	12.53	4.13	Do.
28	13	1343	1	9.9	.9	1.19	.65	46.46	1.065	1.02	10.91	4.17	Do.
28	13	1344	1	8.8	.8	1.30	.88	65.75	1.069	1.78	12.36	3.31	Do.
28	14	1345	1	10.0	.9	2.15	1.38	66.98	1.063	1.68	11.59	2.77	Do.
28	14	1346	1	9.4	.9	1.66	1.20	65.99	1.069	1.93	12.68	2.84	Do.
28	14	1347	2	9.4	.8	3.96	2.70	60.22	1.071	1.28	12.91	3.74	Do.
28	14	1348	1	9.5	.9	1.75	1.21	67.02	1.072	1.14	13.81	3.10	Do.
Sept. 2	13	1541	1	10.4	1.0	2.20	1.71	55.89	1.064	1.16	11.95	2.59	Do.
2	13	1542	1	10.0	.8	1.67	1.19	61.29	1.066	1.11	11.95	2.93	Do.
2	13	1543	1	8.8	.7	1.09	.77	57.87	1.058	1.75	10.06	2.41	Dark green, some starch.
2	13	1544	1	8.6	.7	1.38	.89	63.11	1.060	1.62	10.85	1.92	Do.
6	14	1693	1	8.7	.7	1.45	1.00	35.82	1.072	1.00	13.45	4.21	Dark green, starchy.
6	14	1694	1	9.8	.9	1.50	1.10	66.00	1.060	1.03	11.18	2.79	Do.
6	14	1695	1	9.0	.6	1.15	.83	53.82	1.068	1.10	12.59	3.26	Do.
6	14	1696	1	9.3	.8	1.54	.96	57.24	1.070	1.11	13.13	2.86	Dark brown, starchy.
9	15	1888	1	9.2	.9	2.08	1.39	58.25	1.067	1.01	12.11	2.81	Dark green, starchy.
9	15	1889	1	10.0	1.2	2.96	2.07	61.59	1.069	1.04	12.19	2.98	Do.
9	15	1890	1	10.1	1.1	2.24	1.42	68.01	1.062	1.94	10.90	1.70	Do.
9	15	1891	1	8.5	1.0	2.06	1.24	63.01	1.065	1.64	11.86	2.84	Do.
17	16	2082	1	9.0	1.0	2.12	1.28	59.66	1.067	1.20	12.66	2.78	Do.
17	16	2083	1	10.0	1.3	2.63	1.96	62.33	1.072	1.01	13.71	3.28	Do.
17	16	2084	1	10.4	1.1	2.47	1.62	50.06	1.067	1.19	12.98	2.75	Do.
17	16	2085	1	10.0	1.0	1.97	1.28	61.16	1.071	.90	14.00	2.79	Do.
20	16	2196	1	10.9	1.2	2.79	1.93	61.25	1.070	1.41	13.14	2.83	Do.
20	16	2197	1	10.6	1.0	1.74	1.33	57.66	1.076	.76	14.03	.....	Do.
20	16	2198	1	8.7	1.0	1.64	1.15	44.25	1.067	.85	12.44	3.35	Do.
20	16	2199	1	8.7	1.0	1.76	.84	84.51?	1.065	1.58	11.11	3.60	Do.
24	16	2427	1	10.0	1.0	1.85	1.21	56.90	1.071	.79	12.73	4.36	Do.
24	16	2428	1	9.5	1.0	1.37	1.10	64.27	1.055	1.39	9.44	2.77	Do.
24	16	2429	1	10.0	1.0	2.20	1.61	64.93	1.067	1.27	12.49	3.16	Do.
24	16	2430	1	10.0	1.0	1.93	1.27	61.24	1.073	1.14	13.41	3.30	Do.
28	16	2610	1	7.7	.8	1.54	.93	49.76	1.064	1.34	11.36	2.71	Thin, watery.
28	16	2611	1	8.6	1.0	2.79	1.58	61.42	1.074	.92	13.96	2.99	Do.
28	16	2612	1	10.5	1.0	2.05	1.67	62.99	1.064	1.64	10.33	3.68	Do.
28	16	2613	1	8.8	.9	1.51	1.10	54.21	1.064	1.55	11.94	2.30	Dark brown, starchy.
Oct. 1	16*	2696	1	8.4	.9	1.77	1.16	66.47	1.070	1.50	12.65	3.24	Dark green.
4	16	2746	1	9.4	1.2	2.93	1.60	59.47	1.076	.26	13.58	3.60	Greenish brown.
7	16	2814	1	9.0	.9	1.65	1.02	69.91	1.063	1.75	10.31	3.67	Green.
11	16	2906	1	9.6	1.0	2.40	1.45	61.40	1.076	.....	.....	.....	Dark green.
13	16	2976	1	10.0	1.0	2.59	1.35	65.52	1.077	1.24	14.04	3.19	Light green.
15	17	3008	1	10.0	.9	2.09	1.20	52.56	1.079	1.18	12.74?	6.51?	Do.
16	17	3045	1	9.0	.9	2.13	1.25	65.78	1.072	1.40	13.34	3.03	Do.
19	17	3102	1	11.0	1.0	2.29	1.43	61.08	1.074	1.16	13.46	4.46	Do.
20	17	3129	1	9.8	.9	1.43	.88	45.02	1.076	.71	11.90	5.89	
22	17	3164	1	8.6	.8	1.40	1.00	56.61	1.078	1.33	13.72	4.47	Dirty green.
25	17	3219	1	9.4	.8	1.28	1.19	60.55	1.078	1.44	14.25	1.75	Light green.
27	17	3275	1	10.0	1.1	2.09	1.54	57.02	1.080	1.77	13.72	4.89	Light brown.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 29	17	3314	1	8.9	0.8	1.59	1.01	65.65	1.079	2.29	12.68	3.52	Dirty brown.
30	17	3344	1	11.0	1.1	1.97	1.24	58.23	1.075	1.13	13.17	4.82	Do.
Nov. 3	18	3393	1	8.5	1.0	1.28	1.18	63.00	1.069	.97	12.03	3.93	Dark green.
5	18	3429	1	8.9	1.0	1.42	1.00	60.13	1.068	1.54	12.92	2.63	Do.
9	18	3483	1	9.0	1.0	1.82	1.62	70.34	1.066	.75	12.39	3.00	Green.
12	18	3507	1	9.0	.8	1.18	.88	61.75	1.073	2.40	11.35	3.24	Dirty green.
15	18	3537	1	9.5	.9	.71	.65	42.37	1.067	1.02	11.87	3.65	Dark green.

TABLE No. 12.—HYBRID. E. LINK, GREENEVILLE, TENN.

July 24	1	155	2	7.2	0.9	3.27	2.50	56.60	1.031	2.85	3.17	2.32	L't gr'n, some starch.
24	2	159	2	7.3	.8	3.22	2.40	56.90	1.030	3.06	3.67	2.18	Darker green.
26	3	193	1	7.7	.8	1.58	1.18	59.25	1.041	2.88	5.48	2.06	Dark green.
27	4	232	1	8.0	.9	1.82	1.41	61.54	1.039	2.89	5.60	1.66	Do.
30	4	301	1	8.5	.8	1.35	1.06	65.56	1.050	2.62	6.90	2.91	Do.
30	5	302	1	8.7	.9	1.72	1.41	65.47	1.045	2.76	5.71	2.68	Do.
Aug. 2	5	371	1	9.3	.9	2.01	1.58	69.41	1.050	2.44	7.50	2.82	Light green.
3	6	398	1	8.8	.9	1.71	1.30	65.42	1.057	2.82	9.23	2.14	Light green, starchy.
5	7	488	1	9.0	1.0	1.50	1.18	64.93	1.058	2.43	8.55	3.86	Dark green, starchy.
9	8	590	1	8.2	1.0	1.66	1.29	79.39	1.061	1.68	10.42	3.12	Do.
14	9	808	1	10.2	1.1	2.28	1.71	64.82	1.063	2.23	10.72	2.71	Dark green, watery.
19	9	949	1	8.5	0.9	1.88	1.38	64.14	1.066	1.51	11.86	2.95	Dark green, starchy.
19	9	950	1	9.0	1.0	1.73	1.32	66.33	1.067	1.41	12.22	3.01	Do.
19	10	951	1	8.8	.9	1.83	1.38	63.69	1.076	1.03	14.28	3.28	Do.
19	10	952	1	9.5	.9	1.83	1.45	62.63	1.072	1.29	13.47	3.01	Do.
23	11	1117	1	9.0	1.0	2.26	1.71	61.48	1.074	1.04	13.33	4.21	Do.
23	11	1118	1	9.0	.8	1.60	1.31	65.50	1.065	1.41	11.60	3.14	Do.
26	11	1239	1	9.0	1.0	2.06	1.46	61.54	1.075	1.16	14.08	2.76	Do.
26	11	1240	1	8.5	1.0	1.89	1.40	61.23	1.077	1.06	14.20	3.08	Do.
26	12	1241	1	9.0	1.0	2.04	1.49	63.81	1.077	.85	13.91	3.58	Do.
26	12	1242	1	9.0	1.0	2.13	1.54	65.74	1.073	1.28	13.37	2.36	Do.
30	13	1431	1	8.5	.8	1.59	1.16	65.29	1.070	1.39	12.74	3.39	Do.
30	13	4432	1	9.0	.9	1.94	1.68	54.46	1.080	1.04	15.13	3.78	Do.
Sept. 3	13	1593	1	6.0	.9	1.82	1.49	64.15	1.079	.88	14.75	3.14	Do.
3	13	1594	1	9.1	1.0	2.13	1.58	64.66	1.078	.88	14.17	3.64	Do.
8	14	1802	1	9.3	.9	1.47	1.16	52.27	1.077	.82	14.28	3.38	D'k g'n, some starch.
8	14	1803	1	9.3	.9	1.92	.96	77.75	1.078	.88	13.99	5.26?	Do.
15	15	2009	1	8.6	.9	1.89	1.28	60.67	1.080	.84	14.92	3.68	Dark green, starchy.
15	15	2010	1	9.0	1.0	1.97	1.34	62.35	1.080	.59	15.49	3.09	Do.
23	16	2306	1	9.5	1.0	2.25	1.38	60.51	1.076	.78	14.82	2.90	D'k g'n, some starch.
23	16	2307	1	9.2	1.1	2.02	1.45	60.61	1.082	.67	16.09	3.33	Do.
25	16	2502	1	9.0	1.0	2.27	1.48	63.59	1.076	.64	13.76	4.18	Do.
25	16	2503	1	9.9	1.0	2.57	1.77	61.04	1.080	.66	14.81	4.11	Do.
Oct. 6	16	2777	1	9.5	1.0	2.38	1.52	64.20	1.076	.51	14.41	3.43	Dark green, starchy.
8	16	2865	1	8.9	.8	2.06	1.18	59.81	1.082	.50	16.04	3.66	Green.
15	17	3024	1	9.4	1.0	2.15	1.40	61.57	1.088	.36	16.47	5.69	Dark green.
16	18	3061	1	9.4	1.0	2.17	1.36	65.26	1.079	.55	14.88	.14?	Do.
22	17	3181	1	9.3	1.1	2.55	1.64	63.36	1.086	.52	16.68	4.99	Do.
26	17	3245	1	9.4	.9	1.77	1.34	62.34	1.085	.49	14.97	4.81	Do.
Nov. 4	17	3410	1	9.0	1.3	1.95	1.42	62.33	1.084	.46	16.43	2.71	Do.
6	18	3453	1	9.5	1.0	1.91	1.26	63.99	1.079	.45	15.42	3.55	Do.

TABLE No. 13.—SUGAR CANE. JOHN W. BORGER, LOVILIA, IOWA.

July 20	1	68	2	6.8	0.7	1.63	1.23	68.75	1.032	4.94	1.55	1.65	
20	2	69	2	6.8	.7	2.27	1.69	61.21	1.036	5.61	1.93	1.51	
21	3	86	2	7.6	.8	2.70	2.04	54.10	1.036	5.19	1.80	2.13	
21	4	87	2	7.3	.8	2.74	2.02	59.35	1.042	5.13	3.33	2.00	
22	5	115	2	6.8	.8	2.54	1.86	53.61	1.042	4.69	3.81	1.96	
24	6	156	2	7.1	.8	2.59	1.95	51.56	1.042	5.13	3.85	2.15	Light green, some starch.
27	7	233	1	7.0	.9	1.21	.89	64.29	1.051	4.58	5.65	2.95	Dark green, starchy.
29	8	260	2	7.4	.7	2.24	1.73	67.90	1.056	4.62	6.27	3.03	Dark green.
30	9	303	1	7.3	.7	1.19	.90	65.37	1.062	4.64	7.56	3.10	Do.
31	9	333	1	7.4	.7	1.31	1.02	66.23	1.068	4.07	10.31	2.66	Lighter green, starchy.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 2	9	372	1	6.8	1.0	1.40	1.12	66.27	1.068	3.50	10.49	3.14	Lighter green.
3	9	399	1	7.1	.8	1.28	1.05	66.32	1.068	3.92	11.32	2.08	Light green, starchy.
5	9	487	1	7.6	1.0	1.31	.99	67.24	1.070	3.48	10.70	3.20	Dark green, starchy.
9	9	591	1	7.0	.7	1.32	.98	65.62	1.073	5.27	10.25	2.92	Do.
14	10	807	1	7.0	.8	1.32	1.02	64.12	1.065	2.65	10.84	2.71	Dark green, watery.
19	10	953	1	7.6	.8	1.41	1.10	60.04	1.077	1.73	14.07	3.19	Dark green, starchy.
19	10	954	1	7.1	.8	1.07	.86	68.63	1.074	1.92	11.35	5.21?	Do.
23	11	1115	1	7.3	.7	1.17	.81	62.53	1.076	1.72	13.88	3.22	Do.
23	11	1116	1	7.3	.8	1.21	.94	64.12	1.078	2.24	14.05	3.14	Do.
25	12	1237	1	6.9	.8	1.14	.79	64.54	1.080	1.76	11.57?	6.48?	Do.
25	12	1238	1	7.1	.9	1.41	1.03	64.26	1.078	1.69	12.60	5.05?	Do.
28	12	1377	1	7.9	.8	1.51	.97	61.04	1.076	1.78	13.76	3.65	Do.
28	12	1378	1	6.9	.7	1.20	.84	59.13	1.078	1.72	14.12	3.78	Do.
Sept. 3	13	1591	1	7.3	.7	1.14	.75	60.52	1.078	1.63	13.89	3.36	Do.
3	13	1592	1	7.4	.8	1.53	1.02	60.00	1.076	1.28	13.82	3.02	Do.
8	14	1800	1	7.1	.8	1.26	.87	65.35	1.074	1.42	13.05	2.88	Dark green, some starch.
8	14	1801	1	7.6	.7	1.39	.91	58.91	1.080	1.28	15.27	2.66	Do.
15	15	2007	1	7.1	.9	1.43	.96	63.24	1.079	1.30	14.95	2.80	Dark green, starchy.
15	15	2008	1	7.1	.7	1.19	.84	61.19	1.077	1.35	14.48	2.92	Do.
23	16	2304	1	7.3	.9	1.45	.96	62.84	1.065	1.71	12.13	2.12	Dark green, some starch.
23	16	2305	1	7.2	.8	1.25	.85	58.18	1.079	1.14	14.75	3.25	Do.
25	16	2500	1	7.3	.9	1.50	.95	60.59	1.070	1.25	12.57	3.08	Do.
25	16	2501	1	7.3	.8	1.39	.81	59.19	1.076	1.25	13.49	3.89	Do.
Oct. 6	16	2776	1	8.0	.8	1.12	.78	66.29	1.069	1.20	12.81	2.75	Dark green, starchy.
8	16	2864	1	7.3	.8	1.30	.83	60.90	1.085	1.03	15.49	4.08	Green.
15	17	3023	1	7.4	.8	1.32	.90	65.36	1.078	1.07	13.31	5.19	Dark green.
16	17	3060	1	7.0	.8	1.33	.63	61.38	1.083	1.18	15.12	4.39	Very dark green.
22	17	3180	2	7.6	.8	2.02	1.52	64.20	1.079	1.22	15.19	3.88	Dark green.
26	17	3244	1	7.9	.8	1.05	.73	60.61	1.083	1.19	17.73?	1.39?	Do.
28	18	3291	1	9.6	.8	1.03	.79	60.28	1.076	1.12	14.01	3.74	Green.
28	18	3292	1	8.0	.8	1.17	.87	63.04	1.080	.95	14.59	3.90	Do.
Nov. 4	18	3411	1	7.5	.9	1.23	.92	58.41	1.078	.93	14.36	3.17	Dark green.
6	18	3452	1	6.9	.9	1.06	.81	66.22	1.075	1.20	14.00	3.08	Do.

TABLE NO. 14.—OOMSEEANA SORGHUM. D. W. AIKEN, COKESBURY, S. C.

July 24	1	160	2	6.9	0.6	2.11	1.49	58.38	1.040	3.16	5.15	2.12	Light green.
24	2	161	2	7.5	.8	2.40	1.85	60.12	1.036	2.96	4.51	2.93?	Do.
27	2	235	2	8.6	.8	3.24	2.52	64.80	1.036	2.50	4.73	2.28	Dark green, starchy.
26	3	196	1	7.6	.9	1.64	1.30	56.33	1.047	2.87	6.86	2.02	Lighter green.
27	4	234	1	8.5	.8	1.63	1.26	58.44	1.049	2.72	6.69	2.98	Dark green, starchy.
29	5	262	1	8.4	.8	1.64	1.27	65.08	1.048	3.10	6.41	2.37	Dark green.
30	5	306	1	8.7	.8	1.72	1.37	64.80	1.050	2.47	7.74	2.03	Do.
31	5	332	1	8.7	.9	1.91	1.54	69.29	1.047	2.54	7.00	2.21	Lighter green.
31	6	336	1	6.6	.7	1.59	1.25	68.60	1.053	2.36	8.47	2.51	Lighter gr'n, starchy.
Aug. 2	6	379	1	8.7	.9	1.63	1.32	63.67	1.062	2.45	10.16	3.02	Lighter green.
5	7	481	1	8.7	.9	1.23	1.01	66.30	1.058	2.17	9.42	2.87	Dark green, starchy.
5	8	482	1	9.0	1.0	1.50	1.16	64.00	1.065	2.17	10.58	3.49	Do.
10	9	601	1	9.5	.8	1.46	1.09	65.35	1.064	1.52	11.58	3.06	Do.
16	9	857	1	9.9	1.0	2.09	1.51	65.67	1.063	1.21	11.39	2.73	Do.
16	9	858	1	9.4	.9	1.49	1.14	65.97	1.066	.98	11.68	3.33	Do.
19	10	979	1	9.0	1.0	1.71	1.29	66.72	1.061	1.52	10.49	3.31	Do.
19	10	980	1	10.0	.9	1.89	1.45	68.94	1.063	1.56	10.43	2.91	Do.
23	10	1107	1	10.0	1.0	1.94	1.41	70.87	1.043	2.40	6.81	2.44	Do.
23	10	1108	1	9.4	.9	1.69	1.25	64.94	1.068	1.36	12.59	3.14	Do.
25	10	1229	1	9.6	.9	1.92	1.45	64.38	1.056	1.82	9.65	2.55	Do.
25	10	1230	1	9.7	.9	1.96	1.42	59.97	1.058	1.59	10.27	2.65	Do.
27	11	1339	1	9.5	1.0	1.51	1.09	60.10	1.057	1.64	9.96	2.42	Do.
27	11	1340	1	9.6	.9	1.51	1.10	65.60	1.070	1.64	12.33	3.73	Do.
30	12	1423	1	9.4	.9	1.42	1.08	55.37	1.061	1.48	11.44	2.44	Do.
30	12	1424	1	8.8	.8	1.18	.83	62.46	1.074	1.43	12.90	4.16	Do.
Sept. 2	12	1583	1	9.3	.6	1.00	.69	63.17	1.064	1.54	10.65	3.46	Dark green, some starch.
2	12	1584	1	9.0	.7	1.30	1.08	64.79	1.068	.95	12.18	3.44	Do.
7	13	1787	1	9.5	.9	1.65	1.23	63.97	1.067	1.08	11.91	2.61	Dark green, starchy.
7	13	1788	1	9.6	.9	1.67	1.16	66.40	1.068	.96	9.65?	5.68?	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter of butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 15	14	1999	1	9.5	0.8	1.54	1.19	64.37	1.069	1.25	12.59	2.53	Dark green, starchy.
15	14	2000	1	9.0	1.0	2.00	1.48	65.47	1.078	.98	13.97	3.05	Do.
22	15	2291	1	9.5	.9	1.67	1.29	60.65	1.077	.88	14.88	2.71	Dark green, some starch.
22	15	2292	1	11.0	.8	1.28	.99	56.89	1.080	.79	15.26	3.12	Do.
23	16	2352	1	9.4	1.0	1.85	1.31	63.03	1.077	.74	15.06	2.40	Do.
23	16	2353	1	10.3	.7	1.15	.86	57.40	1.084	.74	15.29	3.80	Do.
25	16	2492	1	8.8	.9	1.38	.97	50.22	1.073	.82	13.41	3.75	Do.
25	16	2493	1	9.5	.9	1.38	1.08	57.75	1.084	.71	15.69	3.99	Do.
27	16	2588	1	9.6	.9	1.58	1.14	57.68	1.075	.73	13.38	4.18	Dark green, starchy.
27	16	2589	1	10.8	.9	1.43	1.10	57.20	1.082	.73	15.42	3.44	Do.
Oct. 5	16	2761	1	9.0	.9	1.91	1.25	64.66	1.076	.39	14.50	3.52	Dark green, some starch.
7	16	2826	1	10.8	.9	1.50	1.11	54.54	1.084	.58	15.45	4.26	Green.
15	17	3019	1	8.9	1.1	1.87	1.27	62.09	1.086	.40	15.81	5.71	Dark green.
16	17	3056	1	9.5	.9	1.15	.91	63.77	1.082	.70	14.92	5.10	Do.
22	17	3176	1	9.4	1.0	1.77	1.36	63.31	1.083	.63	15.19	4.12	Do.
26	17	3240	1	12.6	1.2	3.21	2.41	57.72	1.089	.80	16.25	6.32	Light green.
Nov. 4	18*	3415	1	5.5	.9	.98	.91	52.53	1.079	.78	15.00	2.66	Dark green.
13	18	3518	3	6.5	.6	1.24	1.04	57.29	1.068	1.15	11.52	4.18	Do.

TABLE No. 15.—NEEAZANA. W. H. LYTLE, YELLOW SPRINGS, OHIO.

July 17	1	32	2	6.1	0.8	2.47	1.83	60.05	1.029	4.95	1.13	1.86	
19	2	45	2	7.3	.9	2.86	2.17	56.23	1.033	5.26	1.81	1.45	
22	3	98	2	7.4	.8	2.71	1.98	64.70	1.032	4.72	7.21	3.79	
24	3	143	2	7.7	.7	2.42	1.96	50.16	1.039	4.89	3.22	2.62	Light green.
22	4	97	2	6.6	.8	2.34	1.67	60.90	1.041	5.10	3.48	1.94	
24	4	142	1	8.0	.9	1.86	1.44	54.92	1.038	4.94	3.26	1.82	Darker green.
23	5	123	1	7.2	.8	1.85	1.31	54.77	1.051	4.91	6.08	1.90	Brownish.
26	6	171	1	7.9	.8	1.78	1.36	55.66	1.054	5.40	6.20	1.97	Lighter gr'n, starchy.
27	7	220	1	7.8	.8	1.86	1.39	60.31	1.048	4.62	5.66	1.98	Dark green, starchy.
29	8	250	1	7.8	.8	1.59	1.19	59.28	1.056	4.25	7.41	2.40	Dark green.
30	8	283	1	7.4	.8	1.54	1.14	63.64	1.051	4.38	5.90	2.42	Do.
31	9	320	1	8.1	.8	1.68	1.30	67.23	1.061	4.47	8.35	2.26	Dark green, starchy.
Aug. 2	9	354	1	7.4	.9	1.65	1.30	67.71	1.054	4.03	7.12	1.85	Light green, starchy.
3	9	388	1	7.3	.9	1.62	1.19	66.42	1.064	4.64	7.59	4.13	Do.
4	10	426	1	8.1	.9	2.00	1.52	66.96	1.059	3.92	9.43	1.52	Do.
6	9	508	1	7.5	1.0	1.60	1.19	64.26	1.059	3.71	8.25	2.73	Dark green, starchy.
9	9	570	1	7.7	.9	1.73	1.26	63.24	1.066	3.55	10.71	2.30	Light green, starchy.
5	9	465	1	7.8	1.1	1.79	1.35	64.71	1.060	3.86	8.65	2.58	Dark green, starchy.
5	9	466	1	8.2	1.0	1.64	1.28	64.95	1.064	3.88	9.32	2.82	Do.
5	9	467	1	7.5	1.0	1.56	1.19	67.78	1.061	3.66	8.80	2.76	Do.
5	9	468	1	7.8	1.1	1.56	1.21	65.57	1.065	3.74	9.55	3.00	Do.
7	9	533	1	8.1	.9	1.73	1.29	66.41	1.062	3.58	9.51	2.40	Do.
7	9	534	1	8.0	.7	1.21	.87	66.08	1.066	3.35	10.40	2.81	Do.
7	9	535	1	7.7	.8	1.36	1.13	60.43	1.058	3.84	8.70	2.16	Do.
7	9	536	1	7.6	.8	1.39	1.02	66.81	1.055	3.67	7.77	2.59	Do.
10	9	618	1	7.5	.9	1.71	1.27	59.59	1.063	3.52	9.84	2.44	Do.
10	9	619	1	7.7	.7	1.42	1.07	66.80	1.064	3.66	10.70	1.76	Do.
10	9	620	1	7.9	.9	1.49	1.10	63.80	1.066	3.34	11.06	1.97	Do.
10	9	621	1	7.8	1.0	1.47	1.10	65.20	1.063	3.61	10.12	1.79	Do.
13	10	724	1	8.0	.8	1.10	.81	61.41	1.066	2.87	11.54	2.15	Do.
13	10	725	1	7.8	.9	1.58	1.18	61.11	1.068	3.17	11.50	2.00	Do.
13	10	726	1	7.8	.9	1.56	1.07	64.04	1.072	4.17	11.05	2.42	Do.
13	10	727	1	8.1	.8	1.48	1.06	64.53	1.072	2.41	12.73	2.59	Do.
16	10	853	1	7.6	.8	1.43	.99	64.44	1.067	2.89	9.90	3.70	Do.
16	10	854	1	7.5	.8	1.58	1.06	66.24	1.066	2.69	10.43	3.06	Do.
16	10	855	1	8.1	.9	1.54	1.14	64.26	1.067	2.82	10.68	3.64	Do.
16	10	856	1	7.9	.6	1.39	1.01	65.11	1.068	2.49	11.08	3.14	Do.
20	11	1025	1	7.6	.7	1.32	.99	68.22	1.061	2.58	(†)	.....	Do.
20	11	1026	1	7.7	.9	1.59	1.25	65.32	1.068	2.22	(†)	.....	Do.
20	11	1027	1	7.5	.8	1.48	1.10	64.97	1.067	2.62	(†)	.....	Do.
20	11	1028	1	7.6	.8	1.61	1.19	63.35	1.071	2.66	(†)	.....	Do.
24	12	1167	1	8.0	.8	1.42	1.05	62.26	1.070	3.07	11.95	2.60	Do.
24	12	1168	1	8.1	.8	1.41	1.01	64.96	1.073	2.57	12.61	2.99	Do.
24	12	1169	1	7.6	.8	1.44	.97	65.16	1.074	2.53	13.41	2.50	Do.
24	12	1170	1	7.3	.9	1.60	1.14	64.87	1.063	2.95	10.53	2.37	Do.

* Topped. † Not inverted.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 27	13	1299	1	7.5	0.9	1.45	1.03	65.24	1.067	2.66	11.80	2.41	Dark green, starchy.
27	13	1300	1	7.6	.8	1.54	1.05	67.57	1.068	2.54	11.79	2.57	Do.
27	13	1301	1	7.4	.8	1.47	1.25	48.86	1.077	2.34	12.56	4.23	Do.
27	13	1302	1	7.1	.9	1.67	1.02	76.53?	1.070	3.01	11.43	3.08	Do.
Sept. 1	12	1519	1	7.5	.8	1.27	.89	65.44	1.059	2.71	9.69	2.61	Do.
1	12	1520	1	8.1	.8	1.52	.96	60.27	1.069	2.16	12.61	2.96	Do.
1	12	1521	1	7.7	.9	1.39	.98	60.81	1.070	2.45	12.54	2.91	Do.
1	12	1522	1	8.1	.8	1.42	.96	64.38	1.068	2.43	12.07	2.92	Do.
4	13	1668	1	8.5	.8	1.61	1.08	62.04	1.075	2.05	13.61	3.04	Do.
4	13	1669	1	7.4	.9	1.85	1.25	64.43	1.068	2.28	12.53	2.18	Do.
4	13	1670	1	7.5	.9	1.61	1.24	62.49	1.066	2.57	10.12	3.77	Do.
4	13	1671	1	7.4	.8	1.27	.79	58.65	1.075	2.28	13.37	2.81	Do.
4	14	1689	1	7.9	.8	1.48	1.07	54.59	1.073	2.31	(*)	.....	Do.
4	14	1690	1	7.8	.7	1.45	.94	69.23	1.073	1.95	(*)	.....	Do.
4	14	1691	1	8.0	.9	1.66	1.19	53.63	1.072	2.18	(*)	.....	Do.
4	14	1692	1	7.9	.9	1.52	1.08	58.67	1.075	2.19	(*)	.....	Do.
9	14	1868	1	7.6	.8	1.69	1.15	67.81	1.058	2.45	9.73	2.04	D'k gr'n, some starch.
9	14	1869	1	7.3	.7	1.62	1.04	65.54	1.068	2.26	12.38	1.84	Do.
9	14	1870	1	7.6	.7	1.45	.90	62.00	1.070	1.93	12.86	2.56	Do.
9	14	1871	1	7.4	.7	1.61	1.30	62.20	1.066	2.18	11.94	2.16	Do.
16	15	2059	1	7.9	.8	1.90	1.31	62.41	1.073	1.97	13.35	2.50	Dark green, starchy.
16	15	2060	1	7.7	.8	1.83	1.10	63.34	1.072	2.24	12.81	2.63	Do.
16	15	2061	1	7.6	.8	1.39	1.01	62.39	1.075	2.06	13.60	2.43	Do.
16	15	2062	1	9.3	.8	1.98	1.45	63.93	1.070	1.86	12.13	2.97	Do.
20	15	2176	1	7.7	.8	1.40	.96	59.95	1.071	1.93	13.05	2.90	Do.
20	15	2177	1	8.3	.8	1.71	.99	58.44	1.072	1.87	13.51	3.04	Do.
20	15	2178	1	7.3	.9	1.50	1.03	57.39	1.071	1.81	12.47	3.65	Do.
20	15	2179	1	8.0	.8	1.51	1.08	61.34	1.074	2.20	13.55	2.82	Do.
24	16	2407	1	7.5	.8	1.21	.79	59.44	1.081	1.45	14.56	4.17	Do.
24	16	2408	1	7.9	1.0	3.01?	1.20	62.63	1.077	1.92	13.81	3.53	Do.
24	16	2409	1	8.0	1.0	1.69	1.10	59.80	1.075	1.99	13.34	3.42	Do.
24	16	2410	1	7.8	1.0	1.46	.91	60.86	1.076	1.79	13.75	3.94	Do.
27	16	2570	1	7.9	.9	2.01	1.38	59.85	1.073	2.00	13.04	2.76	Do.
27	16	2571	1	7.9	.8	1.58	1.08	60.97	1.073	1.99	13.56	2.73	Do.
27	16	2572	1	8.3	.9	1.45	1.02	62.89	1.071	2.09	12.60	2.96	Do.
27	16	2573	1	7.6	.8	1.20	.87	67.51	1.064	2.17	11.70	2.15	Do.
Oct. 1	16†	2691	1	7.8	1.0	1.62	1.27	61.63	1.077	2.07	13.94	3.22	Dark green.
4	16	2741	1	7.6	.9	1.95	1.22	60.00	1.080	1.44	15.42	3.51	Dark green, starchy.
7	16	2809	1	7.2	.9	1.91	1.36	61.12	1.080	1.85	13.55	3.07	Green.
11	16	2901	1	8.2	.9	1.72	1.12	58.19	1.089	.....	.....	.....	Dark green.
13	16	2971	1	9.0	.9	1.94	1.16	61.10	1.080	1.53	14.21	3.75	Light green.
14	17	2997	1	8.0	.7	1.09	.70	64.22	1.081	1.62	14.78	3.38	Dark green.
15	17	3039	1	7.6	.9	1.78	1.17	61.32	1.081	1.68	15.10	3.62	Do.
19	17	3097	1	6.9	.9	1.28	.83	56.61	1.080	1.74	14.73	5.84	Do.
19	18	3121	1	6.9	1.0	1.68	1.17	63.16	1.074	2.07	12.96	3.83	Dirty green.
21	17	3154	1	7.8	.9	1.42	1.02	60.39	1.078	1.52	13.76	4.85	Dark green.
25	17	3214	1	7.6	.8	1.32	1.01	60.48	1.080	1.65	15.31	3.09	Light green.
27	17	3270	1	8.7	.9	1.52	1.11	61.58	1.083	2.17	12.25	6.65	Dirty green.
29	17	3319	1	7.0	.9	1.37	1.02	49.78	1.078	1.27	13.63	4.39	Do.
30	18	3339	1	7.9	1.0	1.64	1.27	61.22	1.072	1.96	13.31	3.67	Dirty brown.
Nov. 3	18	3388	1	6.6	.8	1.02	.81	64.23	1.075	1.93	13.17	3.31	Olive green.
5	18	3424	1	7.0	.6	1.25	.97	63.86	1.069	2.16	13.08	2.49	Dark green.
9	18	3478	1	7.0	.8	1.41	1.09	64.99	1.072	1.71	13.30	2.93	Brownish green.
12	18	3502	1	8.0	.8	1.08	.90	64.39	1.072	1.89	13.18	2.63	Light green.
15	18	3533	1	7.5	.8	.91	.77	70.11	1.071	1.83	13.05	2.46	Dirty green.

TABLE NO. 16.—GOOSE NECK. P. P. RAMSEY, BELGRADE, MO.

July 17	1	36	1	6.9	0.9	1.51	1.12	60.49	1.025	3.85	1.02	1.73	
19	2	42	2	7.8	.8	2.96	2.36	58.06	1.029	4.31	1.56	1.52	
20	3	55	1	8.5	1.0	1.11	1.42	52.75	1.027	4.47	1.03	1.50	
22	4	91	1	8.5	1.0	2.31	1.72	78.30	1.036	5.07	2.16	1.84	
22	5	92	1	7.6	1.0	2.22	1.60	63.27	1.038	4.61	3.54	6.44?	
24	5	137	1	9.2	1.0	2.34	1.74	40.13	1.038	1.70?	6.10?	2.12?	Light green.
27	5	216	1	9.5	.9	1.90	1.47	66.27	1.034	4.05	2.39	2.36	Dark green.
26	6	168	1	9.4	.9	1.81	1.41	64.86	1.041	4.32	4.16	1.89	Dark green, starchy.
27	7	215	1	9.0	.9	1.68	1.28	55.92	1.044	4.55	4.28	2.47	Dark green.
28	8	243	1	9.4	.8	1.58	1.21	63.90	1.044	4.10	4.83	2.13	Dark green, starchy.

*Not inverted. †Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter of butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr.ct.*	*Pr. ct.*	*Pr. ct.*	
July 30	9	279	1	9.0	0.9	2.00	1.53	65.42	1.047	3.64	5.55	2.61	Dark green, starchy.
31	9	316	1	9.5	1.0	2.35	1.83	66.11	1.053	3.48	8.25	1.47	Light green, starchy.
Aug. 2	9	350	1	9.5	.8	1.70	1.28	63.75	1.060	2.68	9.72	2.03	Do.
3	9	383	1	9.3	1.0	2.00	1.52	66 28	1.058	3.45	8.73	2.47	Do.
4	9	423	1	8.3	.9	1.98	1.40	64.99	1.052	2.67	9.80	2.07	Dark green, starchy.
7	9	529	1	9.3	1.0	1.80	1.34	68.31	1.053	3.00	7.75	2.48	Light green, starchy.
9	9	566	1	9.0	1.1	2.11	1.58	60.14	1.059	2.02	10.28	2.41	Do.
5	9	453	1	9.0	1.1	2.11	1.59	64.96	1.060	3.42	9.07	2.51	Dark green, starchy.
5	9	454	1	9.5	1.1	1.65	1.19	70.17	1.051	3.37	6.74	2.78	Do.
5	9	455	1	9.4	1.1	1.72	1.27	66.96	1.052	3.66	6.41	3.05	Do.
5	9	456	1	9.7	1.0	1.62	1.15	66.38	1.058	3.47	7.57	3.28	Do.
10	9	626	1	9.1	1.0	1.94	1.40	68.19	1.059	3.02	9.91	1.05	Do.
10	9	627	1	10.1	.9	1.70	1.28	74.24	1.056	2.83	9.30	1.55	Do.
10	9	628	1	9.3	.8	1.49	1.05	64.21	1.058	2.82	9.49	1.96	Do.
10	9	629	1	9.0	.9	1.49	1.02	65.80	1.058	2.78	9.38	2.35	Do.
12	9	707	1	9.5	1.0	2.02	1.42	64.96	1.058	2.87	9.17	2.37	Do.
12	9	708	1	8.9	.9	1,52	1.05	70.46	1.055	3.06	8.78	1.81	Do.
12	9	709	1	9.5	1.0	1.81	1.25	65.64	1.059	2.58	9.84	2.36	Do.
12	9	710	1	9.0	.9	1.52	1.05	68.91	1.060	2.82	9.58	2.46	Do.
16	9	837	1	9.5	1.0	2.01	1.40	68.42	1.060	2.25	10.29	2.41	Do.
16	9	838	1	10.0	.8	1.47	1.07	65.27	1.060	2.21	9 96	2.36	Do.
16	9	839	1	8.8	.9	1.48	1.01	64.05	1.061	2.14	10.06	1.88	Do.
16	9	840	1	9.8	.9	1.55	1.14	64.81	1.060	2.70	9.88	2.70	Do.
20	10	1009	1	9.6	1.0	1.90	1.29	66.18	1.062	1.66	10.79	2.85	Do.
20	10	1010	1	10.0	.8	1.22	.90	63.39	1.060	1.71	10.39	2.99	Do.
20	10	1011	1	8.7	1.0	1.85	1.41	70.16	1.055	2.22	8.81	2.95	Do.
20	10	1012	1	9.7	.9	1.43	1.08	59.39	1.064	1.23	11.39	3.40	Do.
24	11	1151	1	9.8	1.0	1.89	1.28	68.49	1.059	2.02	10.42	2.48	Do.
24	11	1152	1	9.9	1.0	1.87	1.32	63.12	1.067	1.59	12.66	2.48	Do.
24	11	1153	1	9.8	.9	1.84	1.26	69.63	1.060	1.91	10.95	2.19	Do.
24	11	1154	1	9.8	1.0	1.89	1.32	62.46	1.061	1.69	11.67	2.14	Do.
26	12	1280	1	10.0	.9	1.52	1.25	60.00	1.062	1.87	10.84	2.50	Do.
26	12	1281	1	8.6	1.0	2.09	1.43	70.69	1.057	2.54	9.36	2.15	Do.
26	12	1282	1	9.3	.9	1.57	1.10	66.87	1.063	1.56	11.03	2.67	Do.
26	12	1283	1	8.5	.9	1.63	1.15	64.48	1.064	1.66	10.68	3.21	Do.
Sept. 1	13	1503	1	8.7	.9	1.86	1.18	66.35	1.062	1.91	10.97	2.85	Do.
1	13	1504	1	9.2	.9	1.88	1.40	63.26	1.061	1.39	11.11	3.66	Do.
1	13	1505	1	9.7	.9	1.93	1.40	67.18	1.060	1.83	11.15	2.49	Do.
1	13	1506	1	9.9	1.0	1.85	1.25	64.26	1.060	1.33	11.12	3.07	Do.
3	14	1636	1	10.0	1.0	1.61	1.18	58.84	1.066	1.31	12.83	2.28	Do.
3	14	1637	1	9.1	1.0	1.89	1.30	70.10	1.063	1.59	11.72	2.36	Do.
3	14	1638	1	10.0	.9	1.32	1.01	62.09	1.068	1.21	12.64	7.40?	Do.
3	14	1639	1	8.4	1.0	1.93	1.29	61.22	Lost	Lost	Lost.	Lost	Do.
9	15	1852	1	9.5	.8	1.62	.95	57.40	1.067	1.00	12 24	3.02	Dark green, some starch.
9	15	1853	1	9.5	.8	1.36	.98	60.36	1.070	1.94	12.49	3.06	Do.
9	15	1854	1	9.4	.8	1.71	1.10	59.80	1.068	1.22	12.43	2.97	Do.
9	15	1855	1	9.0	.9	1.93	1.27	42.60	1.068	1.24	10.56	.....	Do.
16	15	2043	1	9.1	.8	1.58	1.03	60.89	1.071	1.23	12.81	3.37	Dark green, starchy.
16	15	2044	1	9.5	.9	1.95	1.41	61.83	1.065	1.76	11.65	2.51	Do.
16	15	2045	1	8.8	.9	2.01	1.57	64.00	1.072	1.32	13.09	3.13	Do.
16	15	2046	1	8.9	.8	2.02	1.16	58.36	1.076	1.19	13.77	3.26	Do.
20	15	2160	1	7.8	.8	1.69	1.15	63.11	1.063	.48	12.93	2.16	Do.
20	15	2161	1	9.2	.9	1.85	1.31	64.08	1.065	1.76	12.29	2.15	Do.
20	15	2162	1	9.5	1.0	1.94	1.40	59.84	1.074	1.02	12.23	5.05?	Do.
20	15	2163	1	8.6	1.0	1.86	1.30	43.72	1.069	1.59	13.15	2.52	Do.
24	16	2391	1	9.6	1.0	2.11	1.59	60.08	1.073	1.14	12.84	4.10	Dark green, some starch.
24	16	2392	1	9.0	.8	1.54	1.05	63.46	1.070	1.48	12.68	3.22	Do.
24	16	2393	1	9.9	.8	1.43	.99	55.33	1.075	1.09	13.39	3.94	Do.
24	16	2394	1	9.6	.8	1.36	.94	54.13	1.071	1.20	12.67	3.73	Do.
27	16	2554	1	9.7	.8	1.64	1.13	58.25	1.077	.87	14.06	3.73	Dark green, starchy.
27	16	2555	1	9.4	.9	1.85	1.22	61.80	1.069	1.80	12.23	3.14	Do.
27	16	2556	1	9.6	.8	1.25	.95	59.06	1.077	1.13	13.73	3.42	Do.
27	16	2557	1	9.3	.8	1.39	1.06	57.05	1.079	.98	13.75	4.27	Do.
30	16*	2687	1	8.5	1.1	2.30	1.96	56.29	1.065	2.21	11.62	2.61	Do.
Oct. 4	16	2737	1	9.6	.9	2.10	1.27	65.69	1.080	.66	15.21	4.08	Light green, starchy.
6	16	2792	1	9.5	1,0	2.68	1.38	66.40	1.073	1.42	12.37	4.16	Dark green, starchy.
11	16	2897	1	9.3	1.0	1.76	1.30	64.75	1.077	.....	.....	.....	Dark green.
13	16	2967	1	7.1	.9	1.93	1.05	57.65	1.082	.84	15.11	3.28	Light green.

* Topped August 23.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 14	17*	2993	1	7.0	0.9	1.76	1.14	52.03	1.083	.60	15.20	4.28	Dark green.
15	17	3035	1	10.3	1.1	2.04	1.54	65.33	1.078	1.07	11.05?	7.64?	Do.
17	17*	3091	1	8.9	.9	1.67	1.20	57.72	1.080	.85	15.00	4.25	Do.
19	17	3117	1	9.0	.8	1.76	1.17	53.95	1.083	.69	15.13	4.73	Do.
21	17	3150	1	9.1	.8	1.21	.86	56.89	1.079	.68	14.32	2.75	Light green.
25	18	3210	1	8.2	1.0	1.52	1.30	66.44	1.073	1.91	13.08	3.70	Dirty light green.
27	17*	3266	1	7.4	.8	1.28	.89	58.02	1.084	1.85	13.97	5.16	Do.
28	18	3304	1	7.6	.8	1.52	1.02	59.74	1.075	1.42	12.73	4.69	Do.
30	18	3335	1	9.8	1.0	1.63	1.35	64.66	1.071	1.27	13.45	Lost.	Light green.
Nov 2	18	3380	1	6.3	.9	.....	1.00	48.68	1.061	2.77	9.59	2.72	Dark green.
6	18	3448	1	8.7	1.0	1.24	1.09	61.62	1.075	1.24	13.82	3.29	Yellowish green.
8	18	3463	1	6.0	.8	.55	.48	63.47	1.056	3.35	7.70	2.82	Dirty green.
9	18	3474	1	7.0	.9	1.40	1.22	63.29	1.076	1.31	13.56	3.35	Yellowish green.
10	18	3495	1	9.0	1.0	1.78	1.32	66.28	1.069	2.47	11.27	3.77	Olive green.
13	18	3529	1	10.5	1.1	1.96	1.90	65.55	1.072	1.28	12.96	Lost.	Dark green.

TABLE No. 17.—EARLY ORANGE. I. A. HEDGES, SAINT LOUIS, MO.

July 19	1	43	1	7.5	0.9	1.82	1.31	60.18	1.031	5.09	1.39	1.56	
20	2	54	1	8.3	.8	2.02	1.54	58.57	1.035	4.83	2.98	1.76	
21	3	73	2	7.5	.7	2.78	2.13	50.52	1.040	5.32	3.19	1.59	
21	4	74	1	8.1	1.0	2.37	1.82	51.08	1.038	5.24	3.16	1.57	
23	5	120	1	7.3	1.0	2.38	1.79	54.57	1.044	4.94	4.46	1.81	Darkish green.
26	6	166	1	8.0	.9	2.28	1.77	63.88	1.044	5.24	4.01	1.67	Green, starchy.
27	7	206	1	8.9	.9	2.26	1.69	37.71	1.052	4.69	7.28	1.48	Light green, starchy.
28	8	240	1	8.2	1.0	2.61	1.96	59.69	1.051	4.58	6.10	1.83	Darker green, starchy.
30	9	275	1	8.6	.8	2.10	1.58	64.90	1.060	4.35	7.74	2.77	Light green, starchy.
31	9	310	1	8.7	.9	2.17	1.59	67.31	1.059	4.19	7.96	2.68	Do.
Aug. 2	9	346	1	8.5	1.1	2.34	1.86	65.30	1.056	4.20	7.96	2.04	Do.
3	10	380	1	7.5	1.0	3.04	1.95	65.68	1.065	3.97	9.88	2.63	Do.
4	9	421	1	8.2	.9	2.30	1.68	66.71	1.060	2.78	9.67	2.46	Do.
9	10	562	1	8.6	.8	2.74	1.59	64.13	1.068	2.93	11.67	2.63	Do.
4	9	441	1	8.0	1.1	2.78	2.06	68.12	1.055	4.06	8.01	1.63	Do.
4	9	442	1	8.5	1.0	2.25	1.69	69.79	1.057	3.82	8.86	1.79	Do.
4	9	443	1	8.5	.9	1.94	1.49	68.34	1.060	3.92	8.98	1.96	Do.
4	9	444	1	7.8	1.0	2.42	1.80	68.28	1.059	3.93	8.27	1.87	Do.
7	9	524	1	7.7	.8	2.33	1.69	66.89	1.059	3.99	9.55	1.24	Do.
7	9	525	1	8.8	.9	2.13	1.68	69.03	1.062	3.47	10.40	1.67	Do.
7	9	526	1	8.8	.9	2.06	1.59	69.57	1.058	3.82	8.92	1.86	Do.
7	9	527	1	7.9	.8	1.65	1.18	69.16	1.061	3.53	9.47	2.17	Do.
12	9	691	1	9.1	1.0	2.52	1.79	70.00	1.061	3.36	10.02	1.99	Dark green, starchy.
12	9	692	1	8.4	1.0	2.39	1.21	80.34?	1.066	3.25	10.75	2.51	Do.
12	9	693	1	9.0	.8	1.31	1.02	.....	1.063	1.49	11.68	2.49	Do.
12	9	694	1	8.3	1.0	2.03	1.58	40.30	1.067	3.39	10.81	1.39	Do.
16	10	821	1	8.0	.8	1.85	1.33	65.84	1.069	2.73	11.62	2.67	Do.
16	10	822	1	8.0	1.0	2.29	1.63	66.66	1.068	2.83	10.87	3.01	Do.
16	10	823	1	9.0	.8	1.60	1.18	62.45	1.072	2.66	12.37	2.65	Do.
16	10	824	1	8.4	1.0	2.20	1.58	65.69	1.070	2.94	11.41	2.66	Do.
20	10	993	1	8.4	.9	2.24	1.64	64.45	1.066	2.52	11.40	2.82	Do.
20	10	994	1	8.0	.9	1.81	1.29	66.83	1.072	2.54	12.65	3.09	Do.
20	10	995	1	8.0	1.0	2.03	1.61	66.19	1.071	2.46	12.85	2.62	Do.
20	10	996	1	8.2	1.0	2.18	1.64	64.83	1.072	2.47	12.78	2.89	Do.
23	10	1135	1	8.2	.9	2.41	1.60	63.27	1.075	2.57	13.13	3.09	Do.
23	10	1136	1	8.5	1.0	2.22	1.59	64.64	1.074	2.58	13.58	2.56	Do.
23	10	1137	1	8.2	1.0	2.01	1.41	64.53	1.075	2.91	13.19	2.60	Do.
23	10	1138	1	7.7	1.0	2.26	1.62	65.36	1.069	2.69	12.22	3.10	Do.
26	10	1268	1	8.2	.9	2.09	1.28	70.38	1.068	2.00	9.15?	.93?	Do.
26	10	1269	1	7.5	1.0	2.02	1.32	49.17	1.072	2.41	12.05	2.98	Do.
26	10	1270	1	7.9	1.1	2.12	1.58	70.56	1.071	2.45	12.08	2.93	Do.
26	10	1271	1	8.0	1.0	2.42	1.60	65.59	1.073	2.54	12.36	2.81	Do.
Sept. 1	11	1491	1	8.3	.8	1.83	1.20	62.70	1.065	1.89	10.92	3.48	Dark green, some starch.
1	11	1492	1	8.5	.9	2.01	1.32	61.33	1.069	2.08	12.97	2.49	Do.
1	11	1493	1	8.0	1.0	2.25	1.71	68.80	1.055	2.50	9.62	2.10	Do.
1	11	1494	1	7.5	.9	2.18	1.49	61.62	1.066	2.36	11.10	3.42	Do.
3	11	1620	1	8.5	.9	1.93	1.19	60.37	1.062	1.61	13.36	3.30	Do.
3	11	1621	1	8.1	1.0	2.32	1.62	68.16	1.075	2.11	12.65	3.47	Do.
3	11	1622	1	8.2	1.0	2.35	1.54	65.14	1.074	2.26	13.50	2.96	Do.
3	11	1623	1	7.9	.9	1.39	.95	64.06	1.072	1.88	12.62	3.60	Do.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct*	*Pr. ct.*	
Sept. 8	12	1839	1	8.5	1.0	2.40	1.47	65.81	1.070	1.89	9.23?	6.03?	Dark green, starchy.
8	12	1840	1	8.5	.9	1.78	1.05	62.81	1.072	1.96	10.90?	5.01?	Do.
8	12	1841	1	8.0	1.0	1.73	1.20	Lost.	Lost.	Lost.	Lost.	Lost.	
8	12	1842	1	7.9	1.0	1.67	1.11	65.61	1.075	1.69	10.73?	5.76?	Dark green, starchy.
16	14	2027	1	8.4	.9	2.69	1.60	64.72	1.066	1.95	11.76	2.57	Do.
16	14	2028	1	8.4	.9	2.51	1.57	63.06	1.077	1.74	13.62	3.49	Do.
16	14	2029	1	9.0	.8	1.90	1.42	38.29	1.074	2.13	12.79	3.33	Do.
16	14	2030	1	7.9	.9	2.34	1.60	66.66	1.073	1.81	13.13	3.47	Do.
18	14	2146	1	8.0	1.1	2.30	1.50	57.50	1.074	1.45	13.48	3.65	Do.
18	14	2147	1	9.4	1.2	2.57	1.57	63.91	1.069	1.73	12.09	3.48	Do.
18	14	2148	1	8.3	1.1	2.24	1.43	61.26	1.071	1.93	12.96	3.36	Do.
18	14	2149	1	8.0	.9	1.65	1.17	62.40	1.075	1.70	12.64	4.59	Do.
24	15	2379	1	9.0	.9	2.25	1.31	54.77	1.070	1.36	10.56?	5.36?	Dark brown, starchy.
24	15	2380	1	7.5	1.0	2.33	1.59	64.12	1.074	1.42	14.36	2.56	Dark green, starchy.
24	15	2381	1	8.6	.9	1.58	1.23	58.39	1.076	1.44	13.90	3.90	Dark brown, starchy.
24	15	2382	1	9.2	1.1	2.76	1.49	60.35	1.077	1.82	13.70	3.61	Do.
27	16	2542	1	7.1	1.2	2.68	1.62	63.81	1.068	1.49	12.78	2.63	Do.
27	16	2543	1	7.6	1.3	2.62	1.88	63.27	1.067	2.06	12.29	2.43	Dark green, starchy.
27	16	2544	1	8.4	1.1	2.31	1.41	62.50	1.073	1.57	13.73	2.31	Do.
27	16	2545	1	8.4	1.0	1.87	1.20	60.48	1.075	1.37	13.87	2.95	Do.
30	14*	2684	1	6.0	1.1	1.96	1.81	64.34	1.060	2.09	11.04	2.06	Do.
Oct. 4	16	2733	1	7.2	1.0	2.66	1.60	62.41	1.078	1.10	15.21	3.04	Do.
6	16	2788	1	9.6	.8	1.87	1.05	61.76	1.078	1.14	14.67	3.35	Olive green, starchy.
8	16	2874	1	8.8	1.0	2.00	1.25	61.22	1.077	1.36	14.23	3.45	Green.
13	16	2963	1	7.3	1.0	2.33	1.05	56.81	1.082	1.25	15.28	3.33	Dark green.
14	17	2990	1	8.3	1.2	2.75	2.09	52.84	1.087	.98	15.98	3.74	Do.
15	17	3032	1	9.0	1.0	1.89	1.13	62.14	1.081	1.08	13.04?	6.33?	Do.
17	18	3088	1	8.3	1.0	2.08	1.21	63.04	1.064	1.70	13.45	3.98	Do.
19	17	3114	1	8.1	1.0	1.81	.99	55.56	1.081	1.40	15.04	5.39	Do.
21	17	3147	1	8.3	.8	1.82	1.19	60.74	1.086	1.82	15.81	4.47	Dirty green.
25	18	3207	1	8.4	1.0	2.40	1.63	67.28	1.075	1.19	13.78	3.63	Dirty green, starchy.
27	17	3262	1	8.3	.9	1.67	1.20	62.94	1.081	1.39	15.49	3.37	Brown.
28	17	3300	1	8.0	1.1	2.11	1.43	60.49	1.083	1.13	15.45	4.43	Dirty green.
30	17	3356	1	8.0	1.0	2.01	1.37	59.97	1.080	.98	12.43	Lost.	Green.
Nov. 2	18	3376	1	8.8	.8	.....	1.06	61.57	1.072	1.37	13.26	3.18	Dirty olive green.
6	18	3444	1	8.8	.9	1.83	1.29	59.66	1.079	1.37	14.33	3.72	Dark olive.
8	18	3459	1	8.0	.8	1.00	.79	63.33	1.073	1.29	13.09	3.41	Dark green.
9	18	3470	1	9.0	.9	1.83	1.39	60.95	1.075	1.24	13.84	3.18	Olive green.
10	18	3499	1	8.0	1.1	1.78	1.34	69.29	1.071	1.33	11.49	4.94	Dark green.
13	18	3525	1	9.0	1.1	1.45	1.17	66.98	1.072	1.05	13.29	Lost.	Do.
15	18	3542	1	8.5	1.1	2.01	1.55	71.73	1.035	1.53	10.02	5.16?	Do.

TABLE NO. 18.—NEEAZANA. BLYMYER & CO., CINCINNATI, OHIO.

July 19	1	44	2	6.3	0.7	2.24	1.67	57.98	1.031	5.18	1.12	1.60	
21	2	78	2	6.7	.7	2.29	1.74	56.89	1.038	5.55	2.04	2.00	
22	3	95	2	6.8	.8	2.84	2.06	62.35	1.031	4.73	2.53	.80	
24	3	140	2	6.7	.7	2.25	1.65	49.79	1.037	5.73	2.55	1.85	Light green, some starch.
22	4	96	2	6.8	.8	2.73	1.97	58.56	1.036	4.97	2.97	1.23	
24	4	141	1	7.4	.8	1.75	1.33	47.93	1.033	4.62	2.10	1.90	Olive green.
26	5	170	1	6.8	.7	1.20	.94	56.49	1.039	4.11	4.01	1.79	Dark green.
27	6	219	1	7.6	.8	1.81	1.39	59.35	1.046	4.63	4.91	2.36	Dark green, starchy.
28	7	246	1	7.7	.8	1.68	1.27	59.32	1.054	4.86	6.53	2.08	Do.
30	8	282	1	8.1	.8	1.77	1.34	65.24	1.056	4.50	6.88	2.73	Do.
Aug. 2	9	353	1	7.6	.8	1.29	.99	65.27	1.062	2.88	9.05	1.90	Light green starchy.
3	9	387	1	8.0	1.0	1.76	1.37	65.96	1.058	2.97	8.10	2.77	Dark green, starchy.
4	9	425	1	7.4	.8	1.70	1.25	67.31	1.057	3.92	8.51	1.80	Do.
7	9	532	1	7.7	.7	1.43	1.08	63.67	1.057	4.14	9.17	1.12	Do.
9	9	569	1	8.6	.8	1.54	1.18	65.05	1.060	4.03	9.50	1.99	Light green, starchy.
5	9	461	1	7.7	1.1	1.65	1.26	68.95	1.057	3.72	9.72	2.22	Dark green starchy.
5	9	462	1	8.7	1.0	1.60	1.23	66.61	1.064	3.78	7.68	4.56	Do.
5	9	463	1	8.0	1.0	1.53	1.21	65.27	1.067	4.03	9.98	2.67	Do.
5	9	464	1	8.7	1.1	1.60	1.20	64.59	1.064	4.02	8.88	1.99	Do.
11	9	646	1	8.2	.9	1.68	1.19	66.05	1.063	4.00	10.05	2.08	Do.
11	9	647	1	7.4	.7	1.46	.99	62.44	1.067	3.37	11.36	2.19	Do.
11	9	648	1	8.1	.8	1.33	.99	61.64	1.071	3.07	12.00	3.04	Do.
11	9	649	1	7.9	.8	1.28	.96	60.88	1.070	3.45	12.36	1.95	Do.

* Topped August 28.

ANALYSES OF JUICE FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 12	9	719	1	7.8	0.9	1.31	.97	64.12	1.059	3.93	8.58	2.36	Dark green, starchy.
12	9	720	1	7.1	.8	1.13	1.03	70.98	1.070	3.20	11.25	2.59	Do.
12	9	721	1	7.4	.9	1.65	1.25	64.70	1.059	3.69	8.71	2.33	Do.
12	9	722	1	7.5	.8	1.12	.79	64.62	1.062	3.66	9.27	2.51	Do.
16	9	849	1	8.2	1.0	2.29	1.67	68.22	1.062	1.54	10.17	3.36	Do.
16	9	850	1	7.8	.7	1.23	.91	64.61	1.067	3.26	10.30	2.89	Do.
16	9	851	1	8.0	.7	1.24	.92	64.20	1.068	3.15	10.31	2.81	Do.
16	9	852	1	7.5	.7	1.39	1.00	65.86	1.069	3.11	10.89	2.95	Do.
20	10	1021	1	8.0	.8	1.58	1.24	66.26	1.064	2.88	*	.....	Do.
20	10	1022	1	7.3	.8	1.34	1.08	65.65	1.067	2.53	11.05	3.43	Do.
20	10	1023	1	7.8	.8	1.52	1.17	64.88	1.068	2.91	*	.....	Do.
20	10	1024	1	7.2	.6	1.01	.73	61.56	1.069	2.50	11.38	3.29	Do.
24	10	1163	1	7.1	.8	1.44	.96	60.96	1.075	2.91	12.74	3.09	Do.
24	10	1164	1	7.8	.8	1.37	.91	68.23	1.074	2.46	13.22	2.80	Do.
24	10	1165	1	8.1	.9	1.51	1.13	65.34	1.072	2.45	12.72	2.83	Do.
24	10	1166	1	8.0	.8	1.42	1.00	65.05	1.066	2.67	11.16	2.73	Do.
27	11	1295	1	8.5	1.0	2.43	1.96	68.95	1.062	3.39	10.00	2.34	Do.
27	11	1296	1	7.7	.8	1.57	1.18	60.45	1.073	2.52	12.25	3.36	Do.
27	11	1297	1	7.4	.8	1.57	1.10	63.80	1.075	2.59	12.54	3.47	Do.
27	11	1298	1	7.0	.7	1.25	.84	63.29	1.071	2.59	12.26	2.84	Do.
27	12	1335	1	7.5	.8	1.19	.86	64.19	1.067	2.80	10.86	3.12	Do.
27	12	1336	1	8.0	.9	1.58	1.13	60.92	1.078	1.95	12.70	4.59	Do.
27	12	1337	1	7.5	.9	1.50	1.18	61.75	1.071	2.53	11.82	3.16	Do.
27	12	1338	1	7.5	1.0	1.38	1.07	65.16	1.070	3.22	11.21	2.86	Do.
Sept. 1	12	1515	1	7.4	.8	1.25	.84	61.78	1.068	2.68	11.80	2.92	Dark green, some starch.
1	12	1516	1	7.0	.8	1.38	.98	64.04	1.062	2.60	10.15	3.16	Do.
1	12	1517	1	8.2	.9	1.82	1.24	63.65	1.072	2.27	13.17	2.98	Do.
1	12	1518	1	7.8	1.0	1.72	1.28	61.00	1.070	2.34	13.02	2.63	Do.
4	13	1647	1	8.0	.9	1.69	1.18	60.52	1.068	2.67	11.90	1.52	Dark green, starchy.
4	13	1648	1	7.5	.9	1.58	1.06	62.48	1.070	2.35	12.60	1.43	Do.
4	13	1649	1	7.2	.7	1.17	.74	61.16	1.077	2.14	15.02	1.87	Do.
4	13	1650	1	7.0	.9	1.44	1.06	60.74	1.068	2.58	12.01	2.36	Do.
4	14	1655	1	7.3	.8	1.17	.87	62.94	1.069	1.94	13.13	1.96	Do.
4	14	1656	1	7.5	.8	1.45	.98	63.98	1.072	2.89	12.69	2.05	Do.
4	14	1657	1	7.4	.9	1.20	.89	59.40	1.076	2.04	14.61	2.03	Do.
4	14	1658	1	7.6	1.0	1.41	1.01	60.86	1.079	2.29	14.02	3.20	Do.
9	13	1864	1	8.1	.7	1.25	.73	66.96	1.070	1.82	10.75?	4.78?	Dark green, some starch.
9	13	1865	1	8.0	.8	1.90	1.04	59.66	1.069	2.01	12.97	2.09	Do.
9	13	1866	1	7.5	1.0	1.68	1.14	58.33	1.077	2.19	14.33	1.73	Do.
9	13	1867	1	7.0	.9	1.49	1.04	62.07	1.070	2.28	12.57	2.67	Do.
16	14	2055	1	8.1	.8	1.73	1.21	62.69	1.072	2.39	12.60	2.55	Dark green, starchy.
16	14	2056	1	7.6	.8	1.49	1.10	67.06	1.070	2.39	11.55	3.26	Do.
16	14	2057	1	7.4	.8	1.51	1.12	61.64	1.073	2.07	13.02	2.44	Do.
16	14	2058	1	7.5	.8	1.50	1.08	63.73	1.072	2.23	12.95	2.31	Do.
20	15	2172	1	8.0	.8	1.67	1.20	57.61	1.072	1.87	13.49	3.02	Do.
20	15	2173	1	7.3	.9	1.50	1.02	62.16	1.071	2.24	13.12	2.71	Do.
20	15	2174	1	7.8	.9	1.69	1.30	57.80	1.071	1.86	13.20	2.82	Do.
20	15	2175	1	7.1	.8	1.07	.96	47.81	1.070	2.10	12.34	3.08	Do.
24	16	2403	1	8.5	.8	1.39	.98	59.32	1.073	1.90	11.77	4.46	Do.
24	16	2404	1	7.1	.8	1.32	.83	58.20	1.076	1.61	13.98	5.79?	Do.
24	16	2405	1	7.5	.8	1.52	.98	56.85	1.075	1.69	13.53	3.62	Do.
24	16	2406	1	7.6	.8	1.39	.89	61.49	1.080	1.78	13.41	4.62	Do.
27	16	2566	1	6.8	1.0	1.94	1.38	59.04	1.072	2.54	12.92	2.59	Do.
27	16	2567	1	7.7	.9	1.76	1.23	53.26	1.074	1.79	13.95	2.61	Do.
27	16	2568	1	7.6	.8	1.54	1.00	58.46	1.073	1.69	13.29	3.01	Do.
27	16	2569	1	7.9	.9	1.76	1.06	56.89	1.077	1.72	14.13	3.05	Do.
30	16†	2690	1	5.9	.8	1.32	1.13	61.71	1.079	1.99	14.50	2.94	Do.
Oct. 4	16	2740	1	8.0	.8	1.23	.79	55.55	1.088	1.31	16.27	4.57	Olive, starchy.
7	16	2808	1	7.6	.8	1.26	.95	56.19	1.079	1.60	14.18	3.55	Dirty brown.
11	16	2900	1	9.0	.9	1.62	1.07	60.16	1.082	.....	.....	.....	Dark green.
13	16	2970	1	6.5	.8	1.56	.92	62.44	1.076	1.65	13.18	3.63	Dark olive.
14	17	2996	1	9.0	.8	1.58	.88	57.03	1.084	1.14	15.46	3.93	Dark green.
15	17‡	3038	1	8.3	.9	1.34	.91	57.52	1.083	1.21	13.76	5.58	Do.
17	17	3094	1	7.6	.9	1.43	.94	61.21	1.079	1.75	14.08	4.65	Do.
19	18	3120	1	7.0	1.0	1.63	1.03	72.55	1.068	1.73	11.20	5.80	Dirty green.
21	17	3153	1	7.9	.7	1.17	.78	59.21	1.082	1.48	14.06	6.23	Light green.
25	17	3213	1	7.8	.8	1.27	.97	62.53	1.080	1.71	14.67	4.05	Do.
27	17	3269	1	7.3	.8	1.34	1.04	58.90	1.086	1.89	15.87	3.74	Dark green.
29	18	3318	1	6.6	1.0	1.43	1.10	66.33	1.073	2.30	12.20	3.35	Light green.
30	18	3338	1	8.0	1.0	1.89	1.30	Lost.	1.078	2.23	13.35	4.83	Green.
Nov. 2	18	3383	1	7.3	.8	.....	.83	61.83	1.078	1.62	14.30	1.80	Dark green.

* Not inverted, † Topped August 28. ‡ Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Nov. 5	18	3423	1	7.3	0.7	1.45	1.03	59.57	1.076	1.84	14.48	1.43	Dark green.
8	18	3466	1	7.5	.8	1.28	.97	68.55	1.071	1.58	13.16	2.74	Do.
9	18	3477	1	8.0	.8	1.39	1.14	64.88	1.072	1.90	12.95	2.83	Brownish green.
12	18	3501	1	7.0	.8	1.21	.97	63.88	1.070	1.61	12.81	2.38	Light green.
15	18	3532	1	8.0	.8	.91	.77	59.60	1.074	1.72	13.69	2.72	Dark green.

TABLE NO. 19.—NEW VARIETY. E. LINK, GREENEVILLE, TENN.

July 24	1	157	2	6.6	0.8	2.57	1.89	57.78	1.037	3.43	3.95	1.93	Light green.
24	2	158	2	7.5	.8	2.72	2.12	50.12	1.037	3.60	4.08	1.96	Do.
26	3	194	1	8.4	.9	1.57	1.23	57.85	1.040	3.55	4.70	1.89	Dark green.
26	4	195	1	8.5	.9	1.74	1.38	58.80	1.041	3.63	4.88	2.89	Lighter green.
29	4	261	1	8.5	.7	1.35	1.04	65.28	1.048	3.29	6.23	2.65	Dark green.
29	5	263	1	9.0	.9	1.83	1.41	66.53	1.040	2.96	4.59	2.40	Do.
30	5	305	1	8.8	.8	1.48	1.24	58.79	1.047	3.22	6.39	2.19	Do.
31	6	335	1	9.5	.8	1.58	1.24	69.04	1.052	2.80	7.99	4.13	Light green.
Aug. 5	7	483	1	9.2	1.0	1.57	1.28	65.41	1.060	2.49	9.40	3.68	Dark green, starchy.
5	8	484	1	9.0	1.1	1.80	1.46	67.22	1.057	2.72	8.33	3.14	Do.
9	9	593	1	8.5	.8	1.42	1.05	63.31	1.064	2.53	10.27	3.13	Do.
18	9	937	1	9.0	.7	1.16	.86	63.71	1.060	2.02	10.29	2.55	Do.
18	9	938	1	9.0	.8	1.26	.92	65.00	1.061	2.01	9.93	3.05	Do.
23	10	1109	1	9.5	.7	1.30	.95	69.75	1.060	1.12	12.09	2.17	Do.
23	10	1110	1	9.0	1.0	1.72	1.23	67.59	1.061	1.75	11.40	2.31	Do.
25	11	1231	1	9.5	.9	1.81	1.26	77.10	1.058	1.51	10.60	3.59	Do.
25	11	1232	1	9.5	1.0	1.89	1.35	66.67	1.064	1.60	11.82	2.37	Do.
30	12	1425	1	9.3	.9	1.62	1.14	65.69	1.063	1.62	11.31	2.97	Do.
30	12	1426	1	9.4	.8	1.90	1.36	67.96	1.063	1.35	11.45	3.01	Do.
Sept. 2	13	1585	1	9.1	1.0	1.50	1.11	67.06	1.066	1.41	11.56	3.16	Dark green, some starch.
2	13	1586	1	9.1	1.0	1.79	1.31	63.02	1.070	1.29	13.30	2.47	Do.
7	14	1791	1	9.6	1.0	1.64	1.21	67.27	1.070	1.18	10.42?	5.32?	Dark green, starchy.
7	14	1792	1	9.2	1.0	1.74	1.34	66.11	1.073	.96	12.29?	4.22?	Do.
15	15	2001	1	9.4	.8	1.20	.86	60.81	1.079	.83	13.68	4.44	Do.
15	15	2002	1	9.0	.9	1.52	1.13	61.01	1.073	1.05	13.45	2.83	Do.
22	16	2293	1	9.9	1.0	1.51	1.28	64.65	1.058	1.91	10.51	1.85	Dark green, some starch.
22	16	2294	1	9.6	.8	1.14	.83	65.30	1.070	1.03	13.41	2.71	Do.
25	16	2494	1	9.5	1.0	1.83	1.35	58.69	1.079	.79	15.14	4.95?	Do.
25	16	2495	1	9.6	1.0	1.76	1.34	62.82	1.079	.61	14.98	3.73	Do.
Oct. 5	16	2762	1	11.0	.8	1.39	1.03	64.10	1.068	1.11	13.31	3.25	Dark green, starchy.
7	16	2827	1	9.4	.9	1.24	.94	70.82	1.060	1.71	9.13	4.21	Do.
15	17	3020	1	9.6	.9	2.05	1.49	59.26	1.086	.61	15.72	5.40	Light green.
16	17	3057	1	8.7	1.0	2.15	1.36	63.43	1.083	.69	15.02	5.74	Dark green.
22	17	3177	1	9.6	1.0	1.86	1.36	61.77	1.085	.65	16.30	4.22	Do.
26	17	3241	1	9.3	.8	1.38	1.09	61.62	1.088	.52	19.06?	3.01?	Do.
28	18	3286	1	10.1	1.0	1.54	1.21	60.15	1.082	.58	15.69	5.17	Green.
28	17	3287	1	9.9	1.0	1.67	1.32	60.83	1.085	.60	15.47	5.91	Do.
Nov. 4	18	3414	1	9.8	.9	1.39	1.08	59.80	1.082	.99	15.12	3.25	Dark green.
13	18	3519	1	7.5	1.0	1.56	1.38	63.69	1.073	1.50	12.78	4.13	Do.

TABLE NO. 20.—CHINESE. D. SMITH, ARLINGTON, VA.

July 20	1	57	2	6.1	0.8	2.68	2.14	54.99	1.033	4.51	2.15	1.67	
22	2	99	2	5.8	.9	2.94	2.55	57.58	1.036	4.62	1.04	5.64	
24	2	144	2	6.6	.8	3.45	2.55	43.22	1.037	5.79	1.60	2.01	Light green.
23	3	124	1	6.9	.8	1.78	1.28	59.14	1.033	5.04	1.59	1.70	Do.
26	4	172	1	6.7	.8	1.53	1.10	59.78	1.039	5.53	2.29	1.95	Dark green.
27	5	221	1	7.8	.8	1.53	1.14	57.69	1.046	4.64	4.62	2.45	Do.
29	5	251	1	7.1	.9	2.03	1.54	64.19	1.052	2.27	7.53	3.94	Do.
30	6	284	1	7.8	1.0	2.55	1.94	63.95	1.046	4.70	4.58	2.24	Do.
31	7	321	1	8.2	.7	1.30	.97	68.18	1.049	4.52	5.41	2.51	Dark green, starchy.
Aug. 2	8	355	1	7.6	.9	1.98	1.53	66.95	1.053	5.46	5.58	1.69	Light green, starchy.
3	9	389	1	7.5	1.1	2.15	1.60	65.01	1.054	5.57	5.86	2.42	Dark green, starchy.
4	9	427	1	6.9	.7	1.30	.96	70.92	1.047	3.98	6.02	1.80	Light green, starchy.
6	9	505	1	8.2	1.2	1.98	1.53	64.20	1.055	4.73	6.71	2.45	Dark green, starchy.
7	9	537	1	7.5	1.0	2.15	1.58	69.31	1.050	3.87	5.96	2.59	Do.
9	9	571	1	7.6	1.0	2.17	1.28	79.25?	1.060	3.41	9.21	2.61	Light green, starchy

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 5	9	477	1	8.0	1.1	1.91	1.49	67.26	1.053	5.34	5.50	2.84	Dark green, starchy.
5	9	478	1	8.0	1.0	1 77	1.36	74.92	1.051	4.13	5.96	2.75	Do.
5	9	479	1	8.5	1.0	1.78	1.49	63.62	1.052	5.63	4.61	2.88	Do.
5	9	480	1	7.4	1.0	1.57	1.16	69.14	1.046	4.67	4.37	2.62	Do.
10	9	622	1	7.4	.9	1.54	1.10	46.57	1.055	4.27	7.71	1.76	Dark green, watery.
10	9	623	1	7.6	1.0	2.09	1.54	69.05	1.054	3.91	7.05	2.46	Dark green, starchy.
10	9	624	1	8.7	1.0	2.27	1.58	68.48	1.058	4.03	8.35	2.08	Dark green, watery.
10	9	625	1	7.1	.8	1.55	1.04	72.29	1.042	4.57	4.35	1.49	Do.
13	9	728	1	8.4	1.1	2.04	1.42	58.27	1.053	4.44	6.95	2.00	Dark green. starchy.
13	9	729	1	9.0	1.0	1.57	1.18	61.75	1.058	3.77	8.07	2.62	Do.
13	9	730	1	7.6	.8	1.66	1.16	69.45	1.055	3.55	7.77	2.42	Do.
13	9	731	1	8.6	.7	1.32	.94	63.70	1.059	3.97	8.23	2.01	Do.
17	9	859	1	10.0	.8	1.47	1.10	60.48	1.061	4.62	7.80	2.42	Do.
17	9	860	1	7.9	.9	1.41	1 00	68.72	1.053	3.38	7.28	2.30	Do.
17	9	861	1	8.0	.9	1.67	1.17	66.79	1.062	3.34	9.15	2.76	Do.
17	9	862	1	7.5	.9	1.38	.98	62.78	1.063	3.12	10.00	2.56	Do.
20	10	1029	1	8.1	.8	1.59	1.13	68.71	1.057	3.15	(*)	.....	Do.
20	10	1030	1	8.6	.9	1.96	1.41	68.75	1.056	3.26	(*)	.....	Do.
20	10	1031	1	8.0	.9	1.48	1.05	69.33	1.055	3.27	(*)	.....	Do.
20	10	1032	1	7.0	.9	1.74	1.22	70.00	1.051	3.67	(*)	.....	Do.
24	11	1171	1	7.6	.9	2.13	1.42	67.52	1.062	2.67	10.77	2.05	Do.
24	11	1172	1	9.0	1.0	2.37	1.67	70.61	1.053	3.54	7.80	2.05	Do.
24	11	1173	1	7.6	.9	1.84	1.33	63.97	1.061	2.89	9.88	2.50	Do.
24	11	1174	1	8.1	.8	1.67	1.13	68.62	1.062	3.18	9.64	2.58	Do.
27	12	1303	1	8.9	1.0	2.04	1.32	69.05	1.058	3.98	8.14	2.62	Do.
27	12	1304	1	7.4	1.0	2.13	1.49	67.01	1.048	3.07	7.01	2.04	Do.
27	12	1305	1	7.7	1.1	2.05	1.49	68.63	1.056	2.97	8.22	2.87	Do.
27	12	1306	1	7.1	1.0	1.74	1.17	68.17	1.060	2.98	9.23	2.65	Do.
Sept. 1	13	1523	1	7.5	1.0	2.04	1.43	67.48	1.063	2.53	11.45	2.34	Do.
1	13	1524	1	9.0	.9	1.94	1.24	64.76	1.058	2.87	9.44	2.58	Do.
1	13	1525	1	7.8	1.0	2.31	1.57	69.35	1.056	2.57	9.28	2.50	Do.
1	13	1526	1	7.7	1.0	2.27	1.54	66.00	1.059	3.98	8.04	2.66	Do.
4	14	1672	1	9.1	.8	1.65	1.14	68.72	1.063	2.86	10.46	2.34	Do.
4	14	1673	1	8.1	.9	1.98	1.36	65.00	1.062	3.71	9.65	2.32	Do.
4	14	1674	1	8.4	.8	1.33	.94	66.04	1.066	3.38	12.34	1.03	Do.
4	14	1675	1	7.9	.7	1.43	.99	63.62	1.066	2.46	10.54	3.13	Do.
9	15	1872	1	9.5	.8	1.61	.97	66.52	1.062	2.35	10.87	1.99	Dark green, some starch.
9	15	1873	1	7.8	.8	2.11	1.42	69.74	1.055	2.90	8.16	1.83	Do.
9	15	1874	1	8.0	.8	1.91	1.29	66.15	1.063	2.73	10.70	1.95	Do.
9	15	1875	1	7.5	1.0	2.23	1.51	64.68	1.066	2.26	11.91	2.09	Do.
16	15	2063	1	8.8	.9	2.22	1.41	57.29	1.078	.72	14.18	3.55	Dark green. starchy.
16	15	2064	1	9.2	.9	1.95	1.40	61.16	1.075	2.59	12.72	2.64	Do.
16	15	2065	1	7.8	.7	1.36	.93	59.00	1.079	1.90	13.88	3.54	Do.
16	15	2066	1	7.8	.9	1.96	1.35	61.30	1.078	1.80	14.30	2.40	Do.
20	15	2180	1	7.1	.9	1.71	1.12	59.36	1.071	.98	10.80	5.96	Do.
20	15	2181	1	8.1	.8	1.49	1.12	62.72	1.070	1.97	12.89	2.66	Do.
20	15	2182	1	8.0	.9	1.87	1.23	64.55	1.060	5.24	8.12	1.88	Do.
20	15	2183	1	7.6	1.2	2.35	1.63	60.37	1.074	2.20	13.17	3.25	Do.
24	16	2411	1	9.4	.8	1.36	.99	56.85	1.079	1.91	13.37	4.23	Do.
24	16	2412	1	9.0	.8	1.14	.81	58.91	1.077	1.67	13.30	5.41	Do.
24	16	2413	1	7.8	.8	2.03	1.36	60.32	1.074	1.98	12.08	4.14	Do.
24	16	2414	1	7.8	1.0	2.13	1.35	57.76	1.079	1.26	13.66	4.35	Do.
27	16	2574	1	9.3	.9	1.45	1.02	61.09	1.071	2.35	12.04	3.36	Do.
27	16	2575	1	9.5	.9	1.60	1.14	61.43	1.075	2.05	12.86	3.47	Do.
27	16	2576	1	8.0	.8	1.49	.90	61.24	1.075	2.21	12.60	3.95	Do.
27	16	2577	1	7.6	.8	1.35	1.65	64.13	1.076	2.01	12.92	3.81	Do.
Oct. 1	16†	2692	1	6.7	1.0	1.62	1.25	63.86	1.074	1.92	13.08	3.01	Dark green.
4	16	2742	1	7.8	.9	1.23	.79	61.97	1.071	1.93	12.74	3.18	Dark green. starchy
7	16	2810	1	9.6	.9	1.25	.84	63.42	1.077	1.79	13.32	3.41	Green.
11	16	2902	1	8.0	.9	2.15	1.35	59.93	1.081	.....	.....	.....	Dark green.
13	16	2972	1	6.6	.8	1.90	.97	58.82	1.084	1.52	15.23	3.09	Do.
14	17	2998	1	8.5	.9	1.89	1.41	55.45	1.090	1.11	15.68	4.82	Do.
15	17	3040	1	9.4	.8	1.34	.88	56.28	1.083	1.50	14.06	5.18	Dirty green.
19	17	3098	1	7.6	.9	1.63	.90	58.64	1.082	1.39	14.71	4.34	Dark green.
19	17	3122	1	7.0	1.0	1.74	.97	59.95	1.081	1.38	14.10	4.59	Do.
21	17	3155	1	9.6	.9	1.67	1.14	57.36	1.084	1.15	14.26	6.36	Light green.
25	18	3215	1	7.5	.9	1.62	1.22	59.64	1.078	2.16	13.62	3.14	Dirty green.
27	17	3271	1	8.9	.8	1.12	.87	52.66	1.086	1.44	14.87	5.24	Dark green.
29	18	3320	1	6.9	.9	1.35	1.01	64.99	1.073	2.48	12.03	2.87	Do.
30	18	3340	1	10.0	1.0	1.41	1.03	63.19	1.078	1.45	13.72	4.60	Green.

*Not inverted. †Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter in butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Nov. 3	18	3389	1	9.6	0.9	1.11	0.86	63.33	1.078	1.51	13.57	2.38	Dark green.
5	18	3425	1	7.5	.6	.98	.69	52.06	1.071	1.72	13.12	3.23	Very dark green.
9	18	3479	1	7.5	1.0	1.81	1.50	64.13	1.073	1.53	9.62?	6.83?	Dark green.
12	18	3503	1	7.3	.8	1.13	.91	61.11	1.074	1.52	13.01	3.19	Do.
15	18*	3534	1	6.5	.9	1.44	1.33	63.64	1.069	1.37	12.59	2.78	Do.

TABLE NO. 21.—WOLF TAIL. E. LINK, GREENEVILLE, TENN.

July 30	1	297	1	7.3	1.0	1.80	1.41	62.50	1.037	2.82	4.19	2.20	Dark green.
30	2	298	1	7.7	1.0	1.90	1.46	63.29	1.035	5.19	1.24	2.46	Do.
Aug. 2	3	366	1	8.0	1.0	1.96	1.49	65.04	1.044	3.96	4.60	2.89	Light green, starchy.
2	4	367	1	8.3	1.0	1.61	1.27	68.78	1.038	2.63	4.90	1.49	Do.
2	5	368	1	7.5	1.0	1.87	1.40	68.98	1.041	2.44	5.58	2.45	Light green.
4	5	437	1	8.8	1.0	2.06	1.52	65.65	1.045	2.33	6.92	1.95	Light green, starchy.
6	6	522	1	7.7	1.0	2.45	1.83	65.66	1.046	2.78	5.99	2.61	Dark green, starchy.
6	7	523	1	7.5	1.1	2.42	1.82	68.24	1.047	2.28	6.79	2.68	Do.
9	8	586	1	8.7	.8	1.80	1.36	59.20	1.056	2.44	9.24	2.67	Do.
19	8	941	1	8.0	.8	1.27	.91	64.49	1.063	2.00	10.68	2.84	Do.
19	8	942	1	7.4	.7	1.10	.79	60.91	1.067	2.48	10.93	3.46	Do.
19	9	943	1	8.3	1.1	2.34	1.66	65.65	1.059	1.83	9.89	2.92	Do.
19	9	944	1	7.1	.9	2.10	1.44	66.16	1.061	1.91	10.27	2.81	Do.
26	10	1245	1	8.7	.9	1.98	1.25	64.54	1.058	1.74	10.95	1.68	Do.
26	10	1246	1	8.5	.9	1.94	1.25	62.86	1.062	1.73	10.60	2.78	Do.
Sept. 1	11	1539	1	8.7	1.0	2.19	1.34	56.23	1.053	1.40	8.72	2.61	Do.
1	11	1540	1	7.3	.9	1.93	1.23	66.79	1.066	1.41	11.10	3.53	Do.
3	11	1597	1	9.1	.9	1.84	1.17	65.41	1.056	1.41	10.01	2.50	Do.
3	11	1598	1	8.0	.9	1.98	1.15	68.51	1.063	1.15	11.33	2.81	Do.
8	12	1811	1	8.0	.7	1.37	.85	64.03	1.056	.95	10.13	.66?	Dark green, some starch.
8	12	1812	1	8.0	.8	1.10	.83	63.20	1.048	1.65	7.32	9.17?	Do.
18	13	2123	1	8.1	.9	1.80	1.25	62.80	1.072	.96	12.30	3.90	Dark green, starchy.
18	13	2124	1	8.0	.9	1.93	1.26	57.74	1.065	1.26	11.62	3.22	Do.
23	14	2310	1	8.6	1.1	1.98	1.44	58.23	1.070	1.00	13.45	1.25	Dark green, some starch.
23	14	2311	1	7.6	.9	1.27	.84	58.31	1.066	1.24	11.63	3.08	Do.
27	15	2519	1	9.0	1.0	2.13	1.49	58.94	1.071	2.76	13.69	.82	Dark green, starchy.
27	15	2520	1	8.0	.9	1.55	1.00	58.26	1.076	.93	14.35	2.61	Do.
Oct. 1	15†	2708	1	7.0	1.0	2.28	1.63	64.19	1.075	1.06	13.85	2.53	Green.
6	15	2779	1	8.7	.9	1.79	1.24	64.95	1.073	.66	12.94	3.87	Dark green, starchy.
8	15	2867	1	7.0	1.2	2.23	1.44	63.26	1.074	.93	12.47	4.61	Green.
15	16	3026	1	8.7	.9	1.65	1.05	61.09	1.078	.72	14.30	5.07	Light green.
16	16	3063	1	8.6	1.0	2.02	1.44	65.50	1.076	.66	14.01	4.38	Dirty green.
22	16	3183	1	7.6	.9	1.56	1.02	61.29	1.076	.58	14.79	3.78	Dark green.
26	16	3247	1	7.9	.9	1.10	.87	61.93	1.075	.87	14.14	2.99	Do.

TABLE NO. 22.—GRAY TOP. H. C. SEALEY, COLUMBIA, TENN.

July 20	1	58	2	5.5	0.9	3.41	2.42	51.54	1.030	3.19	2.16	1.79	
23	2	125	2	5.8	.7	2.42	1.69	51.08	1.036	3.53	3.75	1.80	Dark Green.
26	3	173	2	9.9	.9	3.00	2.18	61.42	1.040	3.37	4.80	1.59	Do.
27	4	224	1	7.2	.8	1.73	1.28	57.70	1.041	3.30	4.08	2.95	Do.
29	5	251	1	7.1	.9	2.03	1.54	64.77	1.052	2.27	7.53	3.94	Light green.
30	5	285	1	7.2	1.0	1.82	1.57	56.91	1.049	3.07	6.08	3.03	Lighter green.
31	6	324	1	7.4	.9	1.67	1.24	68.68	1.048	3.30	5.81	2.58	Dark green, starchy.
Aug. 2	7	357	1	7.3	1.0	1.86	1.46	67.02	1.057	2.89	8.72	2.92	Light green, starchy.
3	8	391	1	7.7	1.1	2.05	1.54	68.16	1.051	3.14	7.16	2.64	Dark green.
3	9	392	1	5.7	1.2	2.06	1.45	60.68	1.040	2.36	4.85	.....	Do.
4	9	428	1	7.0	.8	1.67	1.21	64.09	1.060	2.51	10.05	2.39	Light green, starchy.
6	9	511	1	7.5	1.3	2.08	1.52	69.57	1.049	2.87	6.51	2.68	Dark green, starchy.
7	9	539	1	7.3	1.1	1.86	1.38	68.32	1.052	2.82	7.70	2.65	Do.
9	9	573	1	8.6	.9	1.40	1.07	64.93	1.059	2.54	9.55	2.64	Do.
5	8	469	1	7.4	1.3	1.96	1.52	68.12	1.044	2.78	5.32	2.96	Dark green, starchy.
5	8	470	1	7.4	1.1	1.50	1.12	69.58	1.046	2.95	5.87	2.60	Do.
5	8	471	1	7.6	1.0	1.67	1.27	69.50	1.053	2.62	6.47	4.11	Do.
5	8	472	1	7.2	1.1	1.65	1.24	69.73	1.049	3.15	7.20	1.66	Do.
10	9	610	1	7.0	1.1	1.66	1.19	67.72	1.051	2.66	7.64	2.21	Dark green, watery.
10	9	611	1	8.3	.8	1.42	1.02	67.81	1.056	2.39	8.98	2.31	Do.

*Topped. †Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 10	9	612	1	7.6	1.0	1.64	1.27	68.17	1.056	2.58	8.93	2.41	Dark green, watery.
10	9	613	1	7.4	1.0	1.82	1.28	68.16	1.052	2.90	7.70	2.19	Do.
13	9	736	1	7.1	1.2	2.27	1.61	70.28	1.047	2.48	6.71	2.32	Dark green, starchy.
13	9	737	1	7.5	1.0	1.76	1.25	69.78	1.052	2.57	7.95	2.31	Do.
13	9	738	1	6.9	1.1	2.14	1.50	69.11	1.050	2.50	7.26	2.57	Do.
13	9	739	1	7.2	1.1	1.78	1.25	67.78	1.050	2.92	7.16	2.31	Do.
17	9	867	1	7.6	.9	1.60	1.06	65.27	1.063	1.92	10.48	2.79	Do.
17	9	868	1	7.6	.9	1.49	1.05	66.04	1.063	1.79	10.38	3.02	Do.
17	9	869	1	8.7	1.0	1.70	1.28	65.00	1.065	2.21	9.84	3.58	Do.
17	9	870	1	7.6	.9	1.49	1.06	66.05	1.064	2.28	10.65	2.44	Do.
21	9	1048	1	7.9	1.0	1.93	1.45	69.93	1.060	1.82	10.04	3.19	Do.
21	9	1049	1	7.5	1.0	1.84	1.33	68.70	1.061	1.86	10.14	3.03	Do.
21	9	1050	1	8.0	.9	1.69	1.17	71.20	1.050	2.02	7.85	2.80	Do.
21	9	1051	1	8.5	1.0	1.85	1.36	66.50	1.062	2.15	10.41	2.79	Do.
24	10	1179	1	7.1	1.0	1.80	1.23	69.64	1.052	2.42	7.70	2.57	Do.
24	10	1180	1	7.9	.9	1.63	1.11	69.21	1.048	2.25	7.10	2.58	Do.
24	10	1181	1	6.8	1.0	1.61	1.10	68.50	1.050	2.05	7.44	2.89	Do.
24	10	1182	1	7.0	1.0	1.53	1.00	68.50	1.052	1.84	8.56	2.29	Do.
27	11	1311	1	7.9	1.0	1.67	1.14	69.05	1.065	1.88	10.73	3.12	Do.
27	11	1312	1	7.8	1.0	1.87	1.28	70.87	1.043	1.92	6.49	2.38	Do.
27	11	1313	1	7.5	1.0	1.62	1.12	70.29	1.045	2.40	6.58	2.50	Do.
27	11	1314	1	7.0	1.1	1.85	1.26	69.84	1.047	2.44	7.04	2.32	Do.
Sept. 1	12	1531	1	7.0	1.0	1.76	1.20	56.88	1.051	2.03	8.07	2.45	Dark green, some starch.
1	12	1532	1	7.4	1.0	1.85	1.30	62.61	1.053	1.86	8.33	2.93	Do.
1	12	1533	1	7.2	1.2	2.33	1.59	76.07	1.039	2.38	5.07	2.03	Do.
1	12	1534	1	7.3	1.0	1.71	1.05	53.93	1.050	2.40	7.39	2.35	Do.
4	13	1680	1	7.0	1.0	1.63	1.11	69.84	1.050	2.45	7.80	2.04	Dark green, starchy.
4	13	1681	1	8.0	1.1	1.83	1.27	70.26	1.048	2.22	7.34	2.46	Do.
4	13	1682	1	7.5	1.0	1.47	.97	61.31	1.067	1.50	11.93	3.35	Do.
4	13	1683	1	7.0	1.0	1.47	.98	45.39	1.054	2.40	8.40	2.58	Do.
9	14	1880	1	7.0	1.2	2.18	1.45	69.60	1.061	1.53	10.59	2.34	Dark green, some starch.
9	14	1881	1	7.5	1.1	2.16	1.41	69.17	1.058	1.51	9.79	2.73	Do.
9	14	1882	1	7.6	1.2	2.31	1.42	65.74	1.047	2.36	6.94	1.97	Do.
9	14	1883	1	8.0	1.3	3.35	2.26	69.26	1.063	1.40	11.11	2.78	Do.
17	15	2074	1	7.0	1.0	1.73	1.17	64.23	1.078	1.15	13.56	4.82	Dark green, starchy.
17	15	2075	1	7.5	1.2	2.20	1.56	70.94	1.050	2.62	7.33	2.63	Do.
17	15	2076	1	9.8	1.0	1.80	1.34	62.66	1.075	1.19	14.55	2.63	Do.
17	15	2077	1	7.0	1.0	1.79	1.31	64.89	1.065	2.26	11.12	2.62	Do.
20	16	2188	1	7.8	1.2	2.15	1.56	60.70	1.066	1.52	12.14	2.33	Do.
20	16	2189	1	7.4	1.2	2.00	1.44	66.94	1.064	1.64	11.38	2.53	Do.
20	16	2190	1	7.0	1.0	1.42	1.01	64.41	1.064	1.96	11.06	2.72	Do.
20	16	2191	1	8.7	1.0	1.46	1.05	58.40	1.077	1.38	14.37	3.42	Do.
24	16	2419	1	8.1	.9	1.36	.54	58.09	1.081	1.04	14.46	3.97	Do.
24	16	2420	1	7.8	1.0	1.64	.73	60.21	1.078	.91	13.75	4.21	Do.
24	16	2421	1	7.7	1.0	1.74	.77	61.71	1.073	1.34	12.34	4.03	Do.
24	16	2422	1	7.3	.9	1.56	.73	66.67	1.057	2.40	8.72	2.93	Do.
27	16	2582	1	7.9	1.0	1.83	.72	60.74	1.075	1.14	13.43	3.62	Do.
27	16	2583	1	7.2	1.0	1.72	.74	64.29	1.072	1.59	11.72	4.02	Do.
27	16	2584	1	9.7	1.1	2.16	1.06	61.60	1.077	.81	13.91	4.08	Do.
27	16	2585	1	7.6	1.2	1.96	.75	56.81	1.083	1.11	15.02	3.96	Do.
Oct. 1	16*	2694	1	5.5	1.2	1.70	1.32	66.50	1.073	1.40	12.95	3.36	Dark green.
4	16	2744	1	7.4	1.1	1.93	1.35	57.51	1.086	.78	16.29	3.88	Dark green, starchy.
7	16	2812	1	9.8	1.0	1.61	.98	61.34	1.078	1.18	13.81	3.98	
11	16	2904	1	7.8	.9	1.89	1.31	66.22	1.079	.....	.....	.....	Dark green.
13	16	2974	1	7.8	.8	1.52	1.01	62.17	1.088	1.06	14.06	5.46	Do.
14	17	3000	1	7.4	1.0	1.78	1.20	60.90	1.088	.95	15.60	4.22	Do.
16	17	3043	1	7.3	1.1	1.57	1.17	60.11	1.078	1.46	13.87	.....	Do.
19	17	3100	1	6.9	.8	1.35	.95	61.16	1.082	1.40	14.71	4.66	Do.
20	17	3127	1	7.4	1.0	1.46	1.07	52.47	1.086	.98	15.96	4.92	
22	17	3162	1	7.8	.8	1.18	.79	50.97	1.090	1.32	15.80	5.13	Dark green.
25	17	3217	1	8.7	.9	1.43	1.21	62.89	1.081	1.21	14.39	3.79	Green.
27	17	3273	1	7.5	1.1	1.45	1.19	62.59	1.080	1.79	14.70	3.04	Dark green.
29	18	3312	1	8.2	.9	1.19	1.00	64.98	1.073	1.92	12.50	3.29	Light brown.
30	18	3342	1	8.5	.9	1.67	.99	66.15	1.072	1.40	12.41	.....	Light green.
Nov. 3	18	3391	1	8.1	.9	1.03	.88	63.25	1.074	1.27	12.55	4.24	Dark green.
5	18	3427	1	7.2	1.0	1.08	.88	64.75	1.069	1.60	12.83	2.03	Do.
9	18	3481	1	8.0	.9	1.02	.90	67.48	1.071	.97	10.61?	5.57?	Do.
12	18	3505	1	6.8	1.1	1.46	1.27	68.69	1.069	1.50	12.06	2.72	Do.
15	18†	3535	1	6.0	.9	1.21	1.07	63.65	1.068	1.36	12.03	2.93	Light brown.

* Topped August 1.

† Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

TABLE No. 23.—LIBERIAN. BLYMYER & CO., CINCINNATI, OHIO.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 27	1	208	1	7.3	1.1	2.95	2.26	61.96	1.037	4.67	2.49	2.34	Dark green, some starch.
28	1	242	1	8.0	1.0	2.32	1.76	61.88	1.039	4.60	3.56	1.46	Dark green, starchy.
31	1	312	1	7.5	.9	1.62	1.25	65.43	1.040	3.38	3.73	3.20	Do.
27	2	209	1	8.3	1.0	2.77	2.14	61.22	1.034	4.91	2.06	1.64	Do.
31	2	313	1	8.8	1.0	2.15	1.68	69.03	1.037	4.74	3.05	1.47	Do.
27	3	210	1	7.8	.8	2.09	1.58	62.99	1.035	4.73	1.99	2.56	Do.
31	3	314	1	8.5	1.0	2.70	2.13	69.25	1.042	5.20	3.86	1.54	Do.
27	4	211	1	8.4	1.0	2.44	1.94	73.88	1.034	4.84	1.61	2.40	Do.
31	4	315	1	8.3	.9	2.28	1.76	68.70	1.041	4.84	3.73	1.71	Do.
30	5	277	1	8.2	.9	2.23	1.69	63.93	1.045	4.04	5.02	2.28	Do.
Aug. 2	5	348	1	8.3	.9	2.37	1.80	67.67	1.049	4.38	5.74	2.42	Light green, starchy.
3	6	381	1	8.0	1.3	2.48	1.93	66.63	1.058	4.39	5.85	2.43	Do.
6	7	505	1	8.8	1.2	2.90	2.33	67.67	1.049	4.19	5.94	2.07	Dark green, starchy.
9	8	564	1	9.7	1.0	2.10	1.68	65.92	1.053	4.27	6.88	2.43	Light green, starchy.
11	8	634	1	8.5	.9	2.46	1.87	48.00	1.061	4.23	8.94	2.38	Dark green, starchy.
11	8	635	1	7.6	1.2	2.45	1.60	66.39	1.059	3.99	9.07	1.86	Do.
11	8	636	1	8.4	1.3	3.39	2.55	65.80	1.054	4.61	7.17	1.83	Do.
11	8	637	1	7.4	1.0	2.37	1.76	64.63	1.058	4.38	8.26	1.87	Do.
12	8	699	1	10.0	1.0	2.37	1.82	78.52	1.058	3.74	7.68	2.99	Do.
12	8	700	1	8.7	.9	2.37	1.80	67.46	1.059	4.16	7.65	2.68	Do.
12	8	701	1	8.5	1.0	2.31	1.71	68.61	1.058	4.37	7.89	2.35	Do.
12	8	702	1	8.2	1.0	2.31	1.79	66.33	1.050	4.61	5.68	2.19	Do.
16	9	829	1	7.7	.9	2.11	1.49	69.70	1.058	3.17	8.84	2.40	Do.
16	9	830	1	7.9	.9	2.33	1.71	68.90	1.060	3.48	8.60	2.59	Do.
16	9	831	1	9.2	1.1	2.58	1.91	69.41	1.051	4.11	6.47	2.03	Do.
16	9	832	1	8.5	.9	2.12	1.56	63.75	1.065	3.43	9.42	3.07	Do.
20	10	1001	1	8.5	1.1	2.56	2.03	66.78	1.061	2.96	9.88	2.81	Do.
20	10	1002	1	8.9	1.0	2.94	2.26	69.00	1.055	3.44	8.08	2.98	Do.
20	9	1003	1	8.1	.9	2.18	1.60	66.39	1.062	3.24	9.85	2.59	Do.
20	9	1004	1	10.0	1.1	3.20	2.35	65.57	1.061	3.48	9.31	3.14	Do.
24	10	1143	1	8.2	1.0	2.70	2.05	66.83	1.060	3.36	9.75	2.69	Do.
24	10	1144	1	8.6	.9	2.37	1.76	85.96?	1.059	3.40	9.08	2.58	Do.
24	10	1145	1	8.6	1.1	2.98	2.22	52.23	1.057	3.41	8.90	2.21	Do.
24	10	1146	1	8.4	1.0	2.76	2.01	64.58	1.062	3.55	9.15	2.84	Do.
26	11	1272	1	8.3	1.2	2.68	2.08	68.15	1.060	3.03	9.16	2.72	Do.
26	11	1273	1	8.7	1.1	3.15	2.22	69.36	1.062	3.14	9.58	2.32	Do.
26	11	1274	1	8.6	1.1	2.63	1.97	68.68	1.060	2.97	9.48	2.31	Do.
26	11	1275	1	8.2	1.0	2.34	1.62	64.76	1.066	3.32	10.08	2.83	Do.
Sept. 1	11	1495	1	9.0	1.0	2.93	2.09	67.51	1.060	3.11	9.37	2.85	Dark green, some starch.
1	11	1496	1	8.9	1.1	2.82	2.07	65.74	1.063	2.93	10.46	2.60	Do.
1	11	1497	1	8.3	1.0	2.22	1.62	68.57	1.055	2.05	8.61	2.61	Do.
1	11	1498	1	8.1	1.0	2.73	1.89	64.76	1.061	3.13	9.33	3.14	Do.
3	12	1628	1	8.4	1.0	1.96	1.39	65.19	1.066	2.32	11.61	2.63	Dark green, starchy.
3	12	1629	1	9.3	1.0	2.65	1.86	62.92	1.064	3.27	10.45	2.16	Do.
3	12	1630	1	8.0	1.0	2.30	1.70	70.98	1.057	2.58	9.97	2.31	Do.
3	12	1631	1	8.6	1.1	3.14	2.34	65.63	1.064	2.78	10.79	2.69	Do.
8	13	1843	1	8.5	1.0	2.53	1.96	62.02	1.074	2.15	13.51	2.04	Do,
8	13	1844	1	9.3	1.0	2.35	1.69	68.31	1.066	2.84	9.31?	4.12?	Do.
8	13	1845	1	7.8	1.3	3.59	2.68	67.35	1.066	2.70	6.86?	6.67?	Do.
8	13	1846	1	9.0	1.1	2.89	2.25	66.40	1.069	2.60	8.44?	5.89?	Do.
16	13	2035	1	8.4	.9	1.78	1.28	62.59	1.070	1.92	12.09	2.90	Do.
16	13	2036	1	9.3	.9	1.89	1.48	50.00	1.074	2.18	12.52	3.55	Do.
16	13	2037	1	8.9	.9	2.57	1.96	63.22	1.073	2.01	12.77	3.02	Do.
16	13	2038	1	7.8	.9	2.50	1.77	62.60	1.075	2.34	12.91	2.89	Do.
20	14	2152	1	8.5	.8	1.66	1.12	60.78	1.069	1.75	12.68	3.11	Do.
20	14	2153	1	8.2	1.0	2.05	1.54	62.75	1.073	1.99	12.67	3.56	Do.
20	14	2154	1	9.1	1.0	2.73	2.12	64.41	1.072	2.16	12.73	2.93	Do.
20	14	2155	1	7.7	1.2	2.99	2.15	61.53	1.076	1.68	14.62	2.66	Do.
24	15	2383	1	8.1	1.1	2.29	2.02	64.08	1.074	1.87	12.75	3.77	Dark green, some starch.
24	15	2384	1	8.6	1.2	3.23	2.21	70.94	1.069	3.39	11.31	2.75	Do.
24	15	2385	1	8.3	1.2	2.93	2.31	62.00	1.078	1.83	14.07	3.49	Do.
24	15	2386	1	8.9	1.1	2.28	1.75	61.38	1.080	1.86	14.18	3.64	Do.
27	16	2546	1	8.6	1.2	2.66	2.31	60.85	1.077	1.50	14.26	.63?	Dark green, starchy.
27	16	2547	1	8.8	1.2	2.55	1.77	62.07	1.075	1.78	12.65	3.38	Do.
27	16	2548	1	9.0	1.1	3.26	2.62	61.17	1.074	2.01	12.50	3.74	Do.
27	16	2549	1	8.9	1.1	2.47	1.98	56.79	1.083	1.26	14.81	3.97	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 30	15*	2685	1	7.6	0.7	1.23	1.98	50.66	1.073	2.68	12.37	2.70	Dark green, starchy.
Oct. 4	16	2735	1	9.6	1.0	2.14	1.60	66.85	1.076	1.53	13.64	3.76	Do.
6	16	2790	1	8.9	1.1	2.67	2.11	65.31	1.075	1.88	13.45	3.09	Do.
8	16	2876	1	9.9	1.1	2.79	2.05	59.62	1.080	1.56	14.46	8.91?	Green.
13	16	2965	1	9.0	.9	1.78	1.26	56.00	1.086	1.32	15.03	3.91	Dark green.
14	17*	2991	1	7.5	1.1	2.72	1.46	71.72	1.083	.99	14.52	4.76	Do.
15	17	3033	1	10.0	1.0	2.36	1.61	60.79	1.082	1.68	12.59?	6.17?	Do.
17	17	3089	1	9.0	.9	1.63	1.17	60.90	1.080	1.40	14.66	4.04	Do.
19	17	3115	1	7.9	1.1	3.01	1.87	58.35	1.085	1.41	14.31	4.88	Dark olive.
21	17	3148	1	8.8	1.0	2.71	2.00	59.91	1.079	1.33	14.14	4.82	Dark green.
25	17	3208	1	8.5	1.1	2.42	1.99	53.20	1.078	2.04	13.34	4.01	Dark green, starchy.
27	17	3264	1	10.1	1.3	2.83	2.19	56.88	1.083	1.35	15.06	5.23	Dark green.
28	18	3302	1	7.1	1.0	1.32	1.14	62.31	1.075	3.66	11.46	5.21	Dirty green.
30	18	3333	1	9.0	1.1	2.63	1.90	72.14	1.076	1.51	13.73	3.90	Dark green.
Nov. 2	18	3378	1	9.8	1.0	.....	1.82	68.36	1.082	1.59	14.95	3.52	Do.
6	18	3446	1	9.3	1.0	2.08	1.69	62.73	1.080	1.06	14.31	3.70	Do.
8	18	3461	1	8.5	.8	1.49	1.14	64.28	1.073	1.01	13.44	3.20	Dirty green.
9	18	3472	1	9.0	1.0	2.22	1.91	65.05	1.079	1.68	13.92	3.64	Dark green.
10	18	3492	1	9.3	1.0	1.67	1.47	64.37	1.075	1.55	12.78	4.36	Do.
13	18	3527	1	8.0	1.1	2.16	1.82	63.52	1.081	1.33	15.44	Lost.	Very dark green.
15	18	3544	1	10.0	.9	1.70	1.45	64.54	1.073	2.09	12.23	3.64	Do.
16	19	3547	1	9.0	1.1	2.56	2.29	62.42	1.079	1.51	13.49	3.61	Dirty green.
18	19	3552	1	8.8	.9	1.58	1.36	64.62	1.069	2.55	12.17	1.46	Green.
19	19	3555	1	9.5	.9	1.45	1.29	60.31	1.079	1.96	13.81	3.41	
22	19	3557	1	8.6	1.0	1.82	1.65	55.48	1.085	2.13	14.50	1.87	Dark green.
24	19	3559	1	.....	.....	.....	1.56	57.18	1.083	2.55	13.48	3.78	
26	19	3561	1	10.0	.8	1.94	1.61	57.26	1.084	2.38	13.69	3.72	
27	19	3564	1	10.0	1.0	2.06	1.73	50.06	1.083	2.03	14.52	3.44	
29	19	3566	1	6.5	1.0	2.08	1.52	57.45	1.080	2.58	12.55	3.90	
Dec. 1	19	3568	1	8.0	1.0	2.35	1.92	57.60	1.078	3.42	11.64	3.72	
3	19	3570	1	8.0	1.0	2.21	1.92	56.46	1.071	2.92	11.53	4.69	
6	19	3572	1	9.5	1.0	1.52	1.33	54.55	1.071	3.12	9.23	4.71	
8	19	3574	1	8.0	1.0	1.58	1.44	54.66	1.080	5.29	10.30	3.21	
10	19	3576	1	8.5	.8	1.26	1.06	56.25	1.071	5.25	8.09	3.00	
15	19	3578	1	9.5	1.0	1.94	1.62	55.77	1.079	3.68	10.89	3.69	
17	19	3580	1	8.8	1.3	2.06	1.76	43.14	1.084	3.89	11.97	3.51	

TABLE NO. 24.—LIBERIAN. W. H. LYTLE, YELLOW SPRINGS, OHIO.

July 21	1	77	2	6.2	1.0	5.10	3.91	48.28	1.033	4.42	2.33	1.48	
27	2	212	1	7.8	.9	2.13	1.67	63.57	1.036	5.13	1.55	Lost.	Dark green, starchy.
27	3	213	1	8.1	1.0	2.53	1.98	64.75	1.035	5.11	2.01	1.96	Dark green.
27	4	214	1	8.4	.8	1.97	1.51	60.16	1.038	5.06	2.23	2.73	Do.
30	5	278	1	8.0	.8	2.31	1.80	67.32	1.045	4.78	4.32	2.29	Do.
Aug. 2	5	349	1	8.0	1.4	2.76	2.20	66.40	1.048	4.77	5.20	1.48	Light green, starchy.
3	6	382	1	8.3	1.3	2.82	2.19	66.33	1.048	4.65	5.62	2.04	Do.
4	6	422	1	6.3	1.0	3.10	2.23	60.79	1.055	3.95	7.85	1.80	Dark green, starchy.
7	7	528	1	7.8	1.2	3.15	2.42	63.74	1.055	4.27	7.09	2.38	Light green, starchy.
9	8	565	1	9.0	1.1	3.03	2.37	66.11	1.053	4.53	6.75	2.71	Do.
11	8	638	1	8.5	.8	2.04	1.50	62.17	1.054	4.26	7.90	1.83	Dark green, starchy.
11	8	639	1	8.5	1.1	2.62	1.98	45.11	1.056	4.40	7.62	2.18	Do.
11	8	640	1	8.2	1.0	2.82	2.09	66.94	1.054	4.22	7.41	2.03	Do.
11	8	641	1	7.6	.9	2.01	1.49	66.27	1.057	4.60	7.97	1.90	Do.
12	8	703	1	8.6	1.0	2.30	1.74	66.86	1.054	4.25	6.90	2.42	Do.
12	8	704	1	8.1	.8	1.89	1.40	66.77	1.059	4.20	8.01	2.50	Do.
12	8	705	1	8.0	.9	2.11	1.58	68.86	1.057	4.08	7.85	2.31	Do.
12	8	706	1	7.7	1.0	2.21	1.58	70.71	1.060	4.34	8.07	2.55	Do.
16	8	833	1	9.2	1.0	2.17	1.59	65.74	1.060	3.73	8.78	2.49	Do.
16	8	834	1	8.1	1.1	2.28	1.75	68.97	1.055	3.68	7.37	2.46	Do.
16	8	835	1	8.2	1.1	2.58	1.93	66.63	1.056	3.76	7.81	2.45	Do.
16	8	836	1	8.4	1.0	2.36	1.63	67.41	1.057	4.55	7.39	2.25	Do.
20	9	1005	1	8.5	1.0	2.56	1.84	63.97	1.063	3.24	9.97	2.64	Do.
20	9	1006	1	10.2	1.1	2.23	1.72	66.92	1.057	3.68	8.42	2.90	Do.
20	9	1007	1	9.0	1.0	2.27	1.70	68.41	1.059	3.78	8.70	2.44	Do.
20	9	1008	1	8.0	1.0	2.38	1.81	66.14	1.063	3.64	9.58	2.77	Do.
24	10	1147	1	8.1	1.0	2.35	1.62	69.04	1.053	3.94	7.67	2.21	Do.
24	10	1148	1	8.5	1.1	2.85	2.06	68.40	1.060	3.44	9.44	2.21	Do.
24	10	1149	1	9.3	1.2	3.07	2.27	67.88	1.052	3.91	7.48	2.01	Do.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 24	10	1150	1	8.6	1.0	3.05	2.20	67.43	1.061	3.44	8.91	3.25	Dark green, starchy.
26	11	1276	1	8.2	1.0	2.34	1.65	69.18	1.064	2.88	9.94	2.92	Do.
26	11	1277	1	9.0	1.2	3.41	2.42	67.27	1.060	3.50	8.77	2.54	Do.
26	11	1278	1	7.7	1.1	2.59	1.96	65.67	1.060	3.43	8.79	2.64	Do.
26	11	1279	1	7.7	1.1	2.66	1.93	64.77	1.064	3.45	9.22	3.07	Do.
Sept. 1	12	1499	1	8.4	.9	2.45	1.60	62.75	1.061	3.26	8.88	3.41	Dark green, some starch.
1	12	1500	1	8.0	1.0	2.74	1.96	67.41	1.061	3.09	9.98	2.48	Do.
1	12	1501	1	9.3	.9	2.41	1.72	67.56	1.059	2.89	9.75	2.33	Do.
1	12	1502	1	9.2	1.1	2.95	2.23	65.81	1.059	3.13	9.81	2.22	Do.
3	13	1632	1	8.5	1.1	2.77	1.94	67.00	1.062	3.04	10.33	2.31	Dark green, starchy.
3	13	1633	1	9.5	1.1	2.20	1.68	62.35	1.069	2.44	12.45	2.14	Do.
3	13	1634	1	8.3	1.1	2.86	2.08	69.17	1.058	3.11	9.60	1.75	Do.
3	13	1635	1	8.4	1.0	1.45	.94	65.73	1.061	3.11	9.85	2.03	Do.
8	14	1847	1	8.0	1.0	2.28	1.70	64.76	1.068	2.20	10.07?	4.59?	Do.
8	14	1848	1	8.0	1.1	2.55	1.86	68.04	1.055	3.02	6.99?	3.83?	Do.
8	14	1849	1	7.8	1.2	2.40	1.83	68.34	1.064	2.41	8.09?	5.24?	Do.
8	14	1850	1	7.6	1.1	2.47	1.76	65.75	1.070	2.48	8.32?	6.49?	Do.
16	15	2039	1	8.6	1.0	2.63	1.90	62.50	1.073	2.50	12.80	2.36	Do.
16	15	2040	1	10.0	.9	2.35	1.78	54.59	1.074	2.09	13.21	.....	Do.
16	15	2041	1	7.7	1.0	2.45	1.95	50.28	1.073	2.42	12.86	2.38	Do.
16	15*	2042	1	9.3	1.0	1.89	1.60	61.48	1.075	2.14	13.29	2.62	Do.
20	15	2156	1	9.8	1.0	1.87	1.35	61.23	1.069	1.99	12.21	2.91	Do.
20	15	2157	1	8.5	1.1	2.76	2.01	63.15	1.071	2.17	11.75	3.54	Do.
20	15	2158	1	8.4	1.2	2.75	2.02	62.81	1.074	2.49	12.52	2.68	Do.
20	15	2159	1	9.4	1.2	2.40	1.91	60.83	1.073	2.13	11.37	4.72	Do.
24	16	2387	1	9.1	1.2	2.94	2.18	60.68	1.078	1.65	13.96	3.78	Dark green, some starch.
24	16	2388	1	10.3	1.0	2.20	1.67	63.27	1.077	1.51	14.06	3.70	Do.
24	16	2389	1	9.0	1.0	3.06	1.51	60.64	1.077	1.68	13.93	4.35	Do.
24	16	2390	1	8.4	1.2	2.46	1.90	64.03	1.072	3.03	11.20	3.77	Do.
27	16	2550	1	8.6	1.3	3.26	2.35	62.05	1.074	2.15	12.33	3.39	Dark green, starchy.
27	16	2551	1	8.3	.9	1.99	1.41	65.00	1.073	2.25	11.65	3.85	Do.
27	16	2552	1	9.6	1.1	2.40	1.78	61.60	1.075	1.97	13.42	3.04	Do.
27	16	2553	1	7.9	1.1	2.05	1.51	58.28	1.083	1.45	14.64	4.05	Do.
30	16*	2686	1	7.2	1.1	1.65?	2.32	62.62	1.073	3.11	11.92	2.82	Do.
Oct. 4	16	2736	1	8.3	1.0	3.05	1.45	60.35	1.081	1.60	14.43	4.13	Do.
6	16*	2791	1	6.2	1.1	2.28	1.94	66.04	1.068	3.86	9.67	3.19	Do.
8	16	2877	1	9.5	1.1	1.15	1.65	59.49	1.079	1.83	14.44	.....	Green.
13	16	2966	1	8.6	.8	1.72	1.08	63.46	1.086	1.32	13.92?	5.30?	Dark green.
14	17*	2992	1	7.7	1.4	3.14	2.51	58.66	1.087	1.10	15.01	5.10	Do.
15	18	3034	1	9.3	1.2	2.52	1.88	63.00	1.077	3.09	11.84	4.54	Do.
17	17	3090	1	10.1	1.1	2.93	2.05	65.67	1.083	1.39	15.24	4.06	Do.
19	17	3116	1	6.6	1.2	2.36	1.66	62.91	1.084	1.64	14.98	4.64	Dark olive.
21	17	3149	1	8.6	1.0	1.97	1.55	64.63	1.080	1.63	13.51	5.65	Dark green.
25	18	3209	1	7.7	1.1	2.62	2.18	64.30	1.078	1.97	13.99	3.57	Dirty green.
27	17	3265	1	9.0	1.1	2.22	1.78	58.52	1.085	1.67	13.95	6.04	Dark green.
28	17	3303	1	8.6	.8	.92	.72	61.49	1.080	1.85	13.69	3.86	Dirty green.
30	18	3334	1	8.9	1.1	2.54	1.75	64.28	1.075	1.83	13.17	5.28	Dark green.
Nov. 2	18	3379	1	9.0	.8	.....	.80	49.32	1.075	1.77	13.56	3.27	Do.
6	17	3447	1	7.8	1.1	2.11	1.80	64.63	1.079	1.34	13.98	3.66	Do.
8	17	3462	1	10.0	1.0	2.52	2.11	57.71	1.081	1.10	14.78	3.68	Do.
9	18	3473	1	6.5	1.0	2.19	2.11	64.69	1.078	1.60	13.77	3.30	Do.
10	18	3494	1	7.8	1.1	2.17	1.93	65.18	1.077	2.03	12.49	4.52	Olive green.
13	18	3528	1	8.5	1.0	1.67	1.29	64.28	1.077	1.73	12.91	Lost.	Light green.
15	18	3545	1	9.8	1.0	2.10	1.78	64.32	1.072	2.23	12.24	3.18	Dark green.
16	19	3548	1	7.8	.9	1.54	1.32	55.67	1.078	1.44	14.06	3.38	Dirty green.
18	19	3553	1	8.6	1.1	1.94	1.76	68.00	1.071	3.09	11.61	2.60	Green.
19	19	3556	1	9.5	.9	1.42	1.14	57.56	1.079	1.52	13.99	3.37	
22	19	3558	1	7.3	1.1	1.78	1.71	60.41	1.084	2.59	13.15	3.06	Brownish green.
24	19	3560	1	.....	.....	.....	.91	54.85	1.077	1.95	12.92	4.49	
26	19	3562	1	8.8	.8	1.42	1.23	52.86	1.078	2.75	12.37	3.43	
27	19	3565	1	8.0	1.2	1.70	1.54	51.14	1.086	2.03	14.41	3.82	
29	19	3567	1	7.8	1.0	1.90	1.58	52.02	1.081	3.78	9.96	5.55	
Dec. 1	19	3569	1	8.3	1.1	2.33	2.03	60.85	1.079	3.35	10.93	3.86	
3	19	3571	1	8.5	.8	1.77	1.52	56.89	1.078	3.34	11.64	3.80	
6	19	3573	1	8.5	1.2	2.31	1.99	56.13	1.083	3.86	11.69	4.21	
8	19	3575	1	7.3	1.0	.98	.82	54.30	1.080	4.24	10.05	4.46	
10	19	3577	1	8.5	1.0	1.79	1.52	52.32	1.088	4.14	12.01	Lost.	
15	19	3579	1	8.5	1.0	2.05	1.67	54.44	1.081	4.39	11.25	2.98	
17	19	3581	1	7.8	.8	1.36	1.17	49.53	1.087	5.06	10.49	4.29	

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

TABLE No. 25.—OOMSEEANA. W. I. MAYES & CO., SWEET WATER, TENN.

Date.	Development.	Number of analysis.	Number of stalk.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 27	1	218	1	7.8	0.9	1.63	1.24	62.65	1.032	4.75	1.35	2.67	Dark green, starchy.
28	2	245	1	7.0	1.2	3.25	2.54	56.08	1.038	4.43	3.14	2.01	Very dark green.
30	3	281	1	7.9	.9	2.18	1.71	65.59	1.044	4.86	3.81	2.30	Dark green.
31	3	318	1	8.0	1.0	2.48	1.93	68.64	1.046	5.02	4.24	2.50	Dark green, starchy.
31	4	319	1	8.2	.9	2.08	1.66	67.72	1.048	4.52	4.84	2.76	Do.
Aug. 2	4	352	1	8.7	1.0	2.20	1.75	66.54	1.049	5.30	5.06	1.34	Light green, starchy.
3	4	384	1	9.6	1.1	2.34	1.86	69.36	1.047	4.89	5.20	2.06	Do.
3	5	385	1	8.7	1.1	2.10	1.66	68.21	1.051	5.16	5.83	2.23	Do.
3	6	386	1	8.5	1.1	2.58	2.09	66.07	1.048	4.62	5.59	2.15	Do.
6	6	507	1	8.2	1.2	2.49	1.96	66.63	1.055	4.61	6.72	2.41	Dark green, starchy.
7	7	531	1	8.2	1.0	2.27	1.72	68.33	1.052	4.31	6.55	2.26	Do.
9	7	568	1	9.7	1.0	2.42	1.96	63.60	1.056	4.82	7.14	2.39	Light green, starchy.
11	7	642	1	10.0	1.1	2.53	1.95	67.81	1.054	4.45	7.30	2.05	Dark green, starchy.
11	7	643	1	9.6	1.0	2.52	1.96	65.13	1.056	4.52	7.29	2.39	Do.
11	7	644	1	8.6	.9	2.39	1.78	65.43	1.056	4.92	7.92	1.51	Do.
11	7	645	1	8.9	.8	1.65	1.23	62.07	1.058	4.62	7.91	2.26	Do.
12	8	715	1	8.1	.7	1.36	.96	64.37	1.058	4.09	8.04	2.43	Do.
12	8	716	1	9.5	1.1	2.31	1.76	73.08	1.059	4.38	8.32	2.08	Do.
12	8	717	1	8.5	1.0	2.41	1.89	63.02	1.057	4.27	7.92	1.95	Do.
12	8	718	1	7.6	1.0	1.76	1.38	64.91	1.063	4.29	8.92	2.50	Do.
16	8	845	1	10.0	1.1	2.42	1.73	68.42	1.063	3.70	9.19	2.63	Do.
16	8	846	1	9.8	1.0	2.02	1.61	67.67	1.061	4.28	8.28	2.24	Do.
16	8	847	1	9.4	.8	1.69	1.24	64.53	1.064	4.32	8.92	2.41	Do.
16	8	848	1	8.2	1.0	2.42	1.82	64.48	1.061	4.25	8.16	2.58	Do.
20	9	1017	1	9.4	1.0	2.54	2.03	71.35	1.062	3.83	8.98	2.87	Do.
20	9	1018	1	8.0	1.1	2.18	1.85	66.55	1.064	3.14	10.32	2.75	Do.
20	9	1019	1	9.6	1.0	2.46	2.02	65.50	1.060	3.73	(†)	.....	Do.
20	9	1020	1	8.8	.9	2.05	1.57	63.81	1.062	3.57	(†)	.....	Do.
24	9	1159	1	10.1	1.0	2.83	2.07	60.49	1.066	3.52	10.83	2.35	Do.
24	9	1160	1	7.6	1.1	2.59	1.96	67.17	1.060	3.22	9.83	2.19	Do.
24	9	1161	1	8.1	1.0	2.74	1.90	69.56	1.058	3.19	9.22	2.33	Do.
24	9	1162	1	8.0	.9	2.25	1.51	68.02	1.056	3.84	8.34	2.02	Do.
27	9	1291	1	9.5	1.1	2.66	2.23	63.73	1.070	3.32	9.86	3.83	Do.
27	9	1292	1	9.6	1.0	2.45	1.77	64.63	1.068	3.56	8.41	4.76	Do.
27	9	1293	1	9.4	.9	1.72	1.25	61.06	1.066	3.52	8.42	4.29	Do.
27	9	1294	1	9.3	1.0	2.49	1.80	63.55	1.068	3.36	8.56	4.65	Do.
Sept. 1	10	1511	1	8.3	.8	1.95	1.30	66.61	1.057	3.37	9.04	2.30	Dark green, some starch.
1	10	1512	1	9.0	1.0	2.51	1.92	63.37	1.061	3.30	10.25	2.24	Do.
1	10	1513	1	7.6	1.0	2.20	1.51	64.96	1.064	2.65	10.82	3.17	Do.
1	10	1514	1	9.0	1.0	2.42	1.72	62.37	1.067	2.94	11.44	3.10	Do.
4	11	1643	1	8.8	.7	1.24	.87	57.72	1.060	2.89	8.98	3.04	Dark green, starchy.
4	11	1644	1	7.7	1.0	2.27	1.69	65.49	1.067	3.44	10.96	2.09	Do.
4	11	1645	1	7.7	1.0	2.49	1.83	64.68	1.070	2.80	11.65	3.03	Do.
4	11	1646	1	9.3	1.0	2.66	1.78	66.00	1.063	3.07	10.02	2.62	Do.
9	12	1860	1	9.0	.8	1.80	1.16	65.59	1.064	2.60	11.40	1.79	Dark green, some starch.
9	12	1861	1	9.4	1.0	2.71	1.81	63.30	1.071	2.23	12.67	2.65	Do.
9	12	1862	1	8.0	1.0	2.78	2.01	67.76	1.065	2.34	11.54	1.94	Do.
9	12	1863	1	8.9	1.1	2.92	2.04	62.63	1.072	1.89	11.56?	5.78?	Do.
16	13	2051	1	8.7	.9	2.38	1.73	64.12	1.073	1.75	14.09	3.22	Dark green, starchy.
16	13	2052	1	9.7	1.1	2.68	2.06	63.42	1.076	1.96	13.37	3.16	Do.
16	13	2053	1	9.4	.8	2.41	1.72	60.07	1.078	2.19	14.01	2.49	Do.
16	13	2054	1	9.2	.9	2.84	2.24	61.29	1.075	2.16	13.13	2.94	Do.
20	14	2168	1	9.2	.9	1.86	1.32	59.86	1.076	1.63	12.95	3.52	Do.
20	14	2169	1	8.0	1.1	2.50	1.82	62.46	1.073	1.83	12.94	3.64	Do.
20	14	2170	1	7.6	1.1	2.79	2.05	64.76	1.072	2.24	12.96	2.71	Do.
20	14	2171	1	7.0	1.1	2.61	1.89	60.58	1.079	1.37	15.10	3.27	Do.
24	15	2399	1	9.8	1.1	2.26	1.76	59.77	1.082	1.44	14.43	4.42	Dark green, some starch.
24	15	2400	1	7.1	1.2	2.64	2.00	63.77	1.074	1.45	13.32	3.71	Do.
24	15	2401	1	9.3	1.2	2.53	1.99	59.60	1.078	1.82	12.32?	5.54?	Dark green, starchy.
24	15	2402	1	7.8	.9	1.38	.98	61.57	1.072	1.46	12.52	4.04	Do.
27	16	2562	1	10.0	1.2	2.86	2.19	55.23	1.080	1.22	15.00	3.59	Do.
27	16	2563	1	8.4	1.2	3.05	2.23	55.72	1.076	1.82	12.86	3.82	Do.
27	16	2564	1	9.6	1.2	3.10	2.18	59.89	1.081	1.35	14.09	4.08	Do.
27	16	2565	1	9.6	1.2	2.82	2.02	58.26	1.080	1.61	13.75	3.85	Do.
30	14*	2689	1	7.6	1.0	2.65	2.09	66.67	1.076	2.39	13.30	2.67	Do.

*Topped August 28.

†Not inverted.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 4	16	2739	1	8.6	1.1	3.28	2.31	67.09	1.084	1.14	15.61	4.47	Dark green, starchy.
6	16	2794	1	8.4	1.2	2.38	1.84	65.84	1.082	1.61	14.26	4.23	Do.
11	16	2899	1	8.4	.9	1.65	1.06	53.53	1.084	.....	.....	.....	Dark green.
13	16	2969	1	8.9	1.0	2.69	1.81	63.99	1.076	2.22	13.19	2.48	Very dark green.
14	17	2995	1	9.9	1.2	3.19	2.37	58.88	1.086	1.24	15.55	3.97	Dark green.
15	17	3037	1	9.6	1.0	2.30	1.61	62.13	1.081	1.42	13.50	5.20	Do.
17	17	3093	1	8.9	.9	1.54	1.02	58.19	1.088	1.45	15.98	4.31	Do.
19	17	3119	1	8.4	1.2	3.19	2.12	63.11	1.082	1.34	14.42	5.06	Do.
21	17	3152	1	8.7	1.1	2.64	2.00	59.01	1.083	.98	14.31	7.002	Light green.
25	18	3212	1	9.5	.8	1.47	1.07	61.60	1.077	1.39	14.22	3.38	Green.
27	17	3268	1	8.0	1.1	2.40	1.90	62.20	1.085	1.28	Lost.	Lost.	Dark green.
28	17	3288	1	9.9	.8	1.34	1.03	56.17	1.083	2.14	15.21	2.78	Green.
30	18	3337	1	9.4	1.2	2.46	1.04	Lost.	1.076	1.54	13.27	Lost.	Dark green.
Nov. 2	18	3382	1	7.5	.8	.....	1.17	53.21	1.079	1.82	14.80	2.98	Do.
6	18	3450	1	8.4	.9	1.54	1.21	63.27	1.077	1.57	13.62	3.57	Do.
8	18	3465	1	9.3	.8	1.42	1.20	66.24	1.077	1.21	13.96	3.84	Do.
9	18	3476	1	9.5	1.0	2.44	2.00	65.05	1.076	1.38	13.74	3.56	Do.
15	18	3531	1	9.5	.9	1.96	1.53	63.31	1.082	1.51	14.87	3.17	Do.

TABLE No. 26.—SUMAC. WILLIS POPE, ALABAMA.

July 27	1	222	2	6.0	1.0	4.59	3.39	41.64	1.041	4.80	2.99	2.58	Very dark green.
27	2	223	2	6.6	1.0	4.46	3.44	58.51	1.041	5.07	3.11	2.39	Do.
31	3	322	1	8.4	1.0	2.14	1.72	66.88	1.047	5.27	4.50	2.22	Dark green, starchy.
31	4	323	1	8.1	.9	1.92	1.49	68.39	1.041	5.12	3.47	1.88	Do.
Aug. 2	4	356	1	8.0	1.0	2.14	1.71	68.55	1.048	5.18	4.73	1.49	Light green, starchy.
3	5	390	1	8.0	1.1	2.31	1.78	67.45	1.052	5.35	6.36	1.79	Dark green, starchy.
6	6	510	1	8.7	1.1	2.05	1.59	66.62	1.054	4.95	6.63	2.08	Do.
7	6	538	1	9.5	1.0	2.33	1.84	67.66	1.056	4.79	7.16	2.16	Do.
9	7	572	1	9.5	1.0	2.30	1.85	66.43	1.053	4.75	6.68	2.29	Do.
11	7	650	1	8.3	1.1	2.56	1.93	66.81	1.055	4.86	7.17	1.67	Do.
11	7	651	1	8.2	1.0	2.25	1.75	66.75	1.054	4.95	7.69	1.02	Do.
11	7	652	1	8.1	1.0	2.09	1.59	65.05	1.059	4.66	7.85	2.32	Dark green, watery.
11	7	653	1	8.0	1.1	2.39	1.79	65.03	1.056	5.15	7.36	1.60	Do.
13	8	732	1	9.0	1.0	2.28	1.70	67.46	1.061	4.28	8.65	2.24	Dark green. starchy.
13	8	733	1	7.5	1.0	2.35	1.75	68.31	1.055	4.50	7.13	2.16	Do.
13	8	734	1	9.0	.8	1.76	1.15	65.42	1.062	4.93	8.33	2.27	Do.
13	8	735	1	8.1	1.1	2.18	1.64	65.10	1.060	4.91	7.83	2.78	Do.
17	8	863	1	9.5	1.0	2.16	1.66	66.16	1.055	4.58	6.90	2.17	Do.
17	8	864	1	9.5	1.0	2.22	1.68	65.58	1.063	3.73	9.33	2.42	Do.
17	8	865	1	8.6	1.0	2.33	1.69	66.71	1.064	3.97	9.37	1.95	Do.
17	8	866	1	7.9	1.0	1.96	1.47	65.59	1.064	4.22	9.20	2.23	Do.
20	9	1033	1	9.9	1.0	2.12	1.66	67.22	1.063	3.74	(*)	.....	Do.
20	9	1034	1	8.6	1.1	2.59	2.01	69.89	1.057	3.77	(*)	.....	Do.
20	9	1035	1	7.7	1.1	2.22	1.74	68.57	1.061	3.33	(*)	.....	Do.
20	9	1036	1	8.4	1.1	1.65	1.87	69.29	1.062	4.51	(*)	.....	Do.
24	9	1175	1	9.2	1.0	2.20	1.87	53.18	1.065	3.30	10.55	2.25	Do.
24	9	1176	1	8.4	.9	2.01	1.51	68.51	1.064	3.21	10.23	2.44	Do.
24	9	1177	1	8.0	1.0	2.38	1.76	68.50	1.065	3.83	9.92	2.07	Do.
24	9	1178	1	8.2	1.1	2.44	1.75	64.07	1.061	4.01	8.57	2.74	Do.
27	10	1307	1	9.6	1.0	2.23	1.70	54.46	1.067	3.40	10.68	2.93	Do.
27	10	1308	1	7.6	1.0	2.74	1.97	68.17	1.061	3.56	9.15	2.23	Do.
27	10	1309	1	9.0	1.1	2.37	1.74	69.06	1.068	3.92	8.39	2.67	Do.
27	10	1310	1	7.9	1.0	2.60	1.79	54.55	1.068	3.63	10.65	2.71	Do.
Sept. 1	11	1527	1	9.3	1.0	1.93	1.35	65.84	1.060	3.64	9.44	2.25	Dark green, some starch.
1	11	1528	1	9.3	1.1	2.73	2.05	54.19	1.065	3.03	10.81	2.50	Do.
1	11	1529	1	7.5	1.0	2.03	1.42	66.20	1.062	3.38	9.81	2.88	Do.
1	11	1530	1	8.0	1.0	2.49	1.73	68.66	1.061	3.12	9.19	3.06	Do.
4	12	1676	1	9.1	1.0	1.93	1.35	61.95	1.071	2.51	11.83	3.26	Dark green, starchy.
4	12	1677	1	8.1	1.1	2.96	2.12	68.29	1.052	3.85	7.54	1.68	Do.
4	12	1678	1	9.1	1.0	1.89	1.60	65.70	1.067	3.06	11.10	2.71	Do.
4	12	1679	1	9.0	1.1	2.55	1.80	62.93	1.064	3.31	9.55	3.31	Do.
9	13	1876	1	9.5	1.1	3.69	2.55	64.30	1.069	2.08	12.62	2.56	Dark green, some starch.
9	13	1877	1	9.0	.9	2.16	1.48	68.75	1.061	2.82	10.49	2.05	Do.
9	13	1878	1	9.0	.8	1.73	1.14	69.96	1.046	3.82	6.36	1.48	Do.
9	13	1879	1	8.5	.7	1.17	.74	60.60	1.049	4.46	5.82	1.97	Do.
17	14	2070	1	8.8	1.1	2.55	1.75	57.93	1.080	.....	.....	.....	Dark green, starchy.
17	14	2071	1	9.7	1.0	2.30	1.73	65.01	1.067	3.02	10.80	3.00	Do.

*Not inverted.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 17	14	2072	1	7.5	1.0	2.51	1.83	65.50	1.071	2.57	11.22	3.86	Dark green, starchy.
17	14	2073	1	8.0	1.0	2.26	1.62	54.60	1.077	2.30	13.63	3.34	Do.
20	14	2184	1	9.0	.9	1.70	1.21	65.86	1.058	3.84	8.97	1.98	Do.
20	14	2185	1	8.5	1.0	2.35	1.74	61.65	1.075	1.91	13.94	3.23	Do.
20	14	2186	1	8.3	1.1	2.02	1.52	57.97	1.075	2.50	13.71	2.54	Do.
20	14	2187	1	7.4	1.0	1.82	1.30	62.54	1.071	2.42	12.56	3.09	Do.
24	15	2415	1	9.8	1.2	2.10	1.56	62.11	1.076	1.89	12.88	4.00	Do.
24	15	2416	1	9.5	1.1	1.74	1.28	61.72	1.076	2.15	12.13	4.17	Do.
24	15	2417	1	9.5	1.0	1.80	1.18	63.55	1.079	1.56	14.03	3.82	Do.
24	15	2418	1	8.2	1.0	2.17	1.57	60.69	1.080	1.55	14.16	3.92	Do.
27	16	2578	1	10.0	1.0	2.28	.84	55.26	1.074	1.98	11.83	4.25	Do.
27	16	2579	1	10.0	1.6	2.20	1.72	57.30	1.080	1.38	13.07	5.12	Do.
27	16	2580	1	7.2	.8	1.41	.92	59.28	1.067	1.73	11.53	3.05	Do.
27	16	2581	1	9.1	1.0	1.98	1.44	57.66	1.072	2.74	11.69	3.38	Do.
Oct. 1	16*	2693	1	7.0	1.3	2.16	1.73	64.70	1.075	2.70	12.70	3.36	Dark green.
4	16	2743	1	9.0	1.1	2.33	1.67	61.57	1.086	1.21	16.48	3.91	Dark green, starchy.
7	16	2811	1	10.4	1.0	2.44	1.74	64.05	1.082	1.62	13.72	3.84	
11	16	2903	1	8.0	1.0	2.42	1.87	62.22	1.083	.....	.....	.....	Dark green.
13	16	2973	1	8.1	1.2	2.91	2.06	58.17	1.088	1.09	15.55	4.22	Do.
14	17	2999	1	9.6	1.1	2.38	1.71	62.19	1.086	1.63	14.98	3.87	Do.
15	17	3041	1	9.9	1.1	2.12	1.47	62.22	1.086	1.66	13.91?	6.48?	Do.
19	17	3099	1	8.0	1.0	2.31	1.64	58.58	1.088	1.02	15.84	5.07	Do.
20	17	3126	1	9.1	.8	1.78	1.36	57.37	1.082	1.78	14.64	4.68	Do.
21	17	3156	1	9.6	1.1	2.20	1.72	60.10	1.085	1.32	14.56	5.64	Do.
25	17	3216	1	9.0	1.1	2.31	1.89	60.26	1.084	1.35	15.15	4.38	Green.
27	17	3272	1	9.0	1.0	1.87	1.46	61.20	1.084	1.93	15.80	3.20	Dark green.
29	18	3311	1	8.0	1.0	1.83	1.40	60.60	1.081	1.56	11.48	6.33	Do.
30	18	3341	1	9.4	1.0	1.67	1.52	59.71	1.080	1.27	14.38	5.48	Light green.
Nov. 3	18	3390	1	7.5	1.0	2.18	1.83	64.39	1.081	1.17	14.34	4.24	Dark green.
5	18	3426	1	9.5	1.1	1.98	1.61	58.33	1.080	1.70	14.41	3.48	Do.
9	18	3480	1	6.0	1.1	2.05	1.97	55.58	1.061	2.21	12.34	.65?	Dark olive.
12	18	3504	1	7.8	1.0	1.66	1.46	64.50	1.072	1.69	12.13	3.50	Dark green.

TABLE No. 27.—MASTODON. D. W. AIKEN, COKESBURY, S. C.

July 26	1	197	2	8.3	0.8	3.19	2.48	59.56	1.037	2.53	4.19	3.02	Dark green.
26	2	198	1	7.3	.8	1.53	1.13	54.43	1.039	3.49	4.60	2.06	Do.
26	3	199	2	8.2	.8	2.77	2.09	61.81	1.034	4.63	2.72	1.64	Dark green, starchy.
26	4	200	1	9.1	.9	2.05	1.61	62.86	1.035	4.69	2.48	1.77	Do.
Aug. 10	5	600	1	10.0	1.0	1.72	1.40	66.30	1.054	3.29	7.98	1.43	Do.
12	5	723	1	9.5	.9	1.38	1.01	65.76	1.063	2.70	10.41	2.32	Do.
19	4	961	1	13.0	1.1	3.21	2.64	68.45	1.046	2.84	6.72	2.39	Do.
19	4	962	1	12.2	.8	2.64	2.17	70.14	1.044	3.71	5.80	2.08	Do.
19	5	963	1	13.2	1.0	3.05	2.45	67.49	1.048	4.30	7.39	.81	Do.
19	5	964	1	9.4	1.1	2.39	1.85	66.39	1.048	4.74	5.58	2.13	Do.
19	6	965	1	11.6	.9	1.94	1.58	69.82	1.057	2.40	9.43	2.88	Do.
19	6	966	1	11.1	1.1	2.60	2.05	67.31	1.057	2.84	9.08	1.94	Do.
23	6	1105	1	12.7	1.2	2.66	2.12	70.05	1.042	4.61	4.94	1.25	Do.
23	6	1106	1	12.5	1.2	3.04	2.09	79.32?	1.042	4.82	4.70	1.42	Do.
24	7	1187	1	13.0	1.0	2.85	2.27	66.83	1.057	2.32	9.93	2.08	Do.
24	7	1188	1	12.6	1.0	2.44	2.06	68.71	1.057	2.31	9.49	2.39	Do.
28	7	1373	1	13.1	1.1	3.28	2.69	70.17	1.057	5.61	7.15	1.81	Dark green, watery.
28	7	1374	1	12.1	1.0	2.13	1.69	61.79	1.063	1.72	11.33	2.90	Dark green, starchy.
28	8	1375	1	12.6	1.2	3.60	2.88	66.32	1.059	1.53	10.54	2.99	Do.
28	8	1376	1	12.1	.9	2.27	1.73	48.66	1.054	2.80	8.61	2.25	Dark green, watery.
Sept. 2	9	1581	1	12.6	.9	2.15	1.61	64.07	1.060	1.42	10.72	2.86	Dark green, some starch.
2	9	1582	1	12.0	1.1	3.24	2.63	68.84	1.055	3.26	8.49	2.04	Do.
7	10	1785	1	13.8	1.3	4.14	3.30	67.81	1.064	3.51	8.14?	5.03?	Dark green, starchy.
7	10	1786	1	11.0	.9	1.61	1.12	66.80	1.075	2.17	4.56?	1.55?	Do.
7	11	1789	1	12.6	1.1	2.88	2.19	66.24	1.049	1.13	6.37?	4.51?	Do.
7	11	1790	1	11.1	1.1	2.46	1.79	65.11	1.062	1.05	9.40?	4.52?	Do.
14	12	1981	1	10.9	1.3	3.26	2.45	67.36	1.044	1.92	5.97	2.35	Light green, some starch.
14	12	1982	1	9.1	.8	1.20	.88	67.75	1.066	.87	9.98	4.63	Do.
22	13	2289	1	9.5	1.1	2.10	1.59	64.92	1.067	1.02	12.59	2.56	Dark green, some starch.
22	13	2290	1	12.6	1.2	3.83	3.27	63.16	1.068	3.45	11.26	2.05	Do.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 23	14	2350	1	12.6	1.2	3.41	2.87	68.28	1.056	3.47	8.06	.....	Dark green, some starch.
23	14	2351	1	13.5	1.1	2.86	2.42	66.73	1.058	1.12	10.49	2.52	Do.
25	15	2490	1	11.6	.9	2.62	2.29	67.50	1.048	1.34	8.45	2.19	Do.
25	15	2491	1	11.5	.9	1.74	1.37	65.11	1.068	2.69	11.63	2.77	Do.
27	16	2586	1	13.5	1.3	3.89	3.22	61.49	1.070	1.62	13.11	2.61	Dark green, starchy.
27	16	2587	1	14.7	1.2	3.15	2.75	61.36	1.066	1.83	11.52	3.02	Do.
Oct. 5	16	2760	1	11.1	1.1	2.60	2.02	62.75	1.083	.72	16.28	3.13	Do.
7	16	2825	1	9.6	1.0	1.52	1.31	52.68	1.060	4.21?	8.48?	7.12?	Green.
15	16*	3018	1	8.0	1.2	2.60	2.34	67.51	1.070	1.30	13.42	3.41	Light green.
16	17	3055	1	11.0	1.0	1.76	1.41	56.65	1.086	1.04	16.07	5.28	Dark green.
22	17	3175	1	13.1	1.2	3.12	2.67	54.43	1.085	.98	15.92	4.95	Do.
26	17	3239	1	10.4	1.1	2.00	1.80	61.71	1.088	1.95	16.15	3.97	Light green.
Nov. 4	18	3416	1	13.5	1.3	2.68	2.46	65.27	1.076	4.53	11.04	2.68	Dark green.
13	18*	3517	1	6.0	1.2	1.58	1.54	64.62	1.079	1.04	14.31	3.88	Do.

TABLE No. 28.—IMPHEE. D. W. AIKEN, COKESBURY, S. C.

July 30	1	304	1	7.3	0.9	1.79	1.40	64.21	1.048	6.28	4.08	1.81	Dark green.
31	2	334	1	7.3	1.0	1.44	1.12	64.30	1.052	6.33	4.43	2.60	Dark green, starchy.
Aug. 2	3	373	2	7.9	.8	2.63	2.02	68.61	1.049	5.56	4.79	2.71	Light green.
2	4	374	1	7.7	.8	1.42	1.06	68.13	1.052	5.44	5.37	3.64	Do.
3	5	400	1	7.7	1.0	1.43	1.29	67.06	1.053	6.13	5.73	1.57	Light green, starchy.
5	5	486	1	8.0	1.3	2.42	1.94	65.19	1.054	5.25	5.31	3.10	Dark green, starchy.
9	6	592	1	8.5	.9	1.80	1.40	64.52	1.058	3.34	8.84	2.75	Do.
19	6	955	1	8.5	1.1	2.40	1.87	64.03	1.063	3.77	8.22	4.05	Do.
19	6	956	1	8.6	1.0	2.09	1.66	63.71	1.056	4.94	7.02	2.48	Do.
19	7	957	1	9.4	1.1	2.33	1.73	67.43	1.061	4.52	8.47	2.70	Do.
19	7	958	1	8.5	.9	1.85	1.40	62.99	1.063	4.64	7.70	3.79	Do.
19	8	959	1	7.6	1.0	2.38	1.62	62.60	1.065	4.32	9.28	2.93	Do.
19	8	960	1	9.0	.8	1.59	1.30	57.46	1.063	4.82	8.33	3.22	Do.
23	9	1113	1	9.6	1.1	2.99	2.17	64 34	1.060	4.71	7.95	2.39	Do.
23	9	1114	1	8.9	1.0	2.37	1.71	61.00	1.066	4.16	9.73	3.00	Do.
25	9	1235	1	9.5	1.1	2.93	2.11	64.89	1.065	4.26	9.78	2.25	Do.
25	9	1236	1	8.5	.9	1.81	1.25	64.65	1.070	3.50	11.03	3.09	Do.
30	10	1429	1	8.0	.9	2.10	1.49	63.12	1.063	3.95	9.67	2.51	Do.
30	10	1430	1	8.9	.9	2.00	1.36	65.16	1.063	4.32	9.31	2.55	Do.
Sept. 2	11	1589	1	8.4	1.1	1.80?	2.12	64.46	1.062	3.65	9.01	2.69	Dark green, some starch.
2	11	1590	1	8.1	1.0	1.91	1.33	64.08	1.069	3.18	10.75	3.24	Do.
8	12	1798	1	8.4	1.1	2.50	1.82	62.24	1.068	3.38	11.34	1.90	Dark green, starchy.
8	12	1799	1	8.9	1.0	2.18	1.58	69.03	1.066	3.35	10.96	1.63	Do.
15	13	2005	1	8.0	.9	1.96	1.37	66.72	1.071	2.82	10.12	4.29	Do.
15	13	2006	1	8.0	.9	1.89	1.38	63.59	1.078	2.16	13.61	3.39	Do.
23	14	2302	1	8.7	.9	1.94	1.25	62.13	1.073	2.26	11.78	3.71	Dark green, some starch.
23	14	2303	1	8.8	1.0	1.89	1.39	58.77	1.074	2.62	12.59	2.62	Do.
25	15	2498	1	9.1	1.0	2.90	2.03	57.03	1.075	1.80	12.71	4.00	Do.
25	15	2499	1	12.9	1.2	3.73	2.87	51.72	1.076	2.46	13.07	3.05	Do.
Oct. 6	16	2775	1	8.2	1.0	2.24	1.49	61.94	1.076	1.70	13.42	3.00	Dark green, starchy.
8	16	2863	1	8.0	1.2	2.99	2.15	64.62	1.072	2.58	12.62	2.64	Green.
15	17	3022	1	8.3	1.0	2.20	1.55	64.54	1.083	2.31	13.87	4.37	Dark green.
16	17	3059	1	7.3	.9	1.76	1.24	58.54	1.083	1.56	15.79	4.10	Very dark green.
22	17	3179	1	8.5	1.3	2.70	1.85	61 67	1.082	1.27	15.64	5.10	Dark green.
26	17	3243	1	8.4	1.0	2.00	1.57	60.67	1.085	1.50	18.82?	.71?	Do.
28	17	3289	1	9.0	1.1	2.29	1.83	60.00	1.083	1.27	15.93	4.22	Green.
28	18	3290	1	8.3	.9	1.65	1.25	60.04	1.081	1.68	14.28	4.53	Do.
Nov. 4	18	3412	1	8.8	1.1	1.80	1.47	61.94	1.080	1.25	14.38	3.17	Dark green.
6	18	3451	1	6.2	1.0	1.24	1.13	59.96	1.079	1.78	14.20	3.02	Do.
13	18	3521	1	9.0	.8	.99	.78	57.47	1.060	2.19	9.34	3.61	Dark olive.

* Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

TABLE No. 29.—NEW VARIETY. J. W. H. SALLE, STRAFFORD, MO.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 26	1	180	1	8.4	0.9	1.82	1.34	59.74	1.034	5.44	2.30	2.30	Dark green.
26	2	181	1	8.0	.9	1.85	1.37	58.70	1.033	5.26	1.86	1.50	Do.
26	3	187	1	7.8	.9	1.78	1.36	60.02	1.033	5.32	1.86	1.58	Do.
30	4	294	1	8.7	.9	1.76	1.38	65.55	1.043	5.03	6.06?	.26?	Lighter green, starchy.
30	5	295	1	8.5	.9	2.15	1.68	66.40	1.039	5.01	2.99	1.96	Do.
31	5	339	1	8.5	.9	1.72	1.33	67.44	1.043	4.89	3.65	2.63	Do.
Aug. 3	6	395	1	8.8	.8	1.80	1.39	69.36	1.049	4.77	5.89	1.92	Light green, starchy.
6	7	520	1	9.7	1.0	2.07	1.69	77.81	1.045	4.96	4.51	2.01	Thin, watery.
9	8	584	1	9.0	1.0	1.97	1.25	78.03	1.050	4.69	6.20	2.11	Dark green, watery.
17	4	908	1	8.4	.7	1.05	.79	61.48	1.064	3.77	8.64	3.24	Dark green, starchy.
10	8	596	1	8.7	.9	1.83	1.32	65.33	1.055	4.13	7.73	2.93	Light green, starchy.
10	8	597	1	7.6	.7	1.13	.79	64.17	1.054	4.20	7.52	1.98	Dark green, starchy.
10	8	598	1	8.5	1.0	1.98	1.48	68.15	1.054	4.08	7.28	2.34	Do.
10	8	599	1	7.3	.9	1.67	1.21	65.85	1.051	4.83	6.01	2.00	Do.
11	8	670	1	8.7	.8	1.19	.89	78.52	1.052	4.22	7.17	2.01	Dark green, watery.
11	8	671	1	7.5	1.0	1.89	1.41	63.38	1.048	4.51	5.62?	2.18	Dark green, starchy.
11	8	672	1	8.2	.9	1.72	1.23	65.48	1.054	4.03	7.32	2.26	Do.
11	8	673	1	7.6	.9	1.33	1.01	63.48	1.053	4.93	6.91	1.50	Do.
18	9	925	1	8.0	1.0	1.93	1.47	65.67	1.058	4.09	8.06	2.07	Do.
18	9	926	1	8.2	.9	1.70	1.24	65.94	1.063	3.90	9.00	2.48	Do.
18	9	927	1	8.0	.8	1.47	1.07	66.80	1.062	4.12	8.77	2.32	Do.
18	9	928	1	8.2	.9	1.25	.90	65.12	1.065	4.46	9.00	2.50	Do.
23	10	1097	1	12.0	1.2	3.46	2.35	82.10?	1.038	4.46	4.07	1.44	Do.
23	10	1098	1	7.0	.9	1.54	.96	68.05	1.058	3.86	8.69	1.39	Do.
23	10	1099	1	7.7	1.1	2.24	1.62	68.59	1.037	3.31	4.34	1.99	Do.
23	10	1100	1	8.0	.8	1.29	1.49	41.04	1.056	4.19	7.99	1.93	Do.
23	9	1121	1	9.0	1.0	2.42	1.60	65.57	1.060	1.68	11.90	1.47	Do.
23	9	1122	1	8.0	1.0	1.72	1.19	62.04	1.059	2.16	10.11	2.51	Do.
25	10	1221	1	9.7	1.1	2.14	1.50	66.18	1.058	4.34	8.32	2.11	Do.
25	10	1222	1	8.0	.9	1.17	.79	62.50	1.065	3.46	10.70	2.13	Do.
25	10	1223	1	8.6	.9	1.68	1.10	78.29?	1.059	3.95	8.98	1.99	Do.
25	10	1224	1	8.3	.9	1.40	.95	64.06	1.062	4.48	9.05	1.96	Do.
28	11	1365	1	9.0	.9	1.65	1.08	69.61	1.053	3.85	7.62	2.11	Do.
28	11	1366	1	7.6	.8	1.18	1.05	49.27	1.064	3.62	10.00	2.64	Do.
28	11	1367	1	7.6	.8	1.14	.80	62.57	1.066	3.59	9.96	2.96	Do.
28	11	1368	1	8.4	.8	1.37	.94	64.94	1.061	4.15	8.71	2.60	Do.
Sept. 2	12	1573	1	8.3	1.1	2.02	1.49	68.62	1.046	3.61	5.29	2.53	Dark brown, some starch.
2	12	1574	1	7.3	.9	1.57	1.12	66.86	1.049	3.36	6.63	2.21	Do.
2	12	1575	1	8.1	.6	1.03	.66	63.24	1.058	3.78	8.15	1.92	Do.
2	12	1576	1	8.5	.7	1.95	.92	75.47?	1.048	4.09	5.79	2.10	Do.
21	13	2229	1	8.6	.9	1.52	1.16	60.57	1.071	2.58	11.12	3.62	Dark green, starchy.
21	13	2230	1	8.1	1.1	1.75	1.32	66.27	1.049	4.48	5.61	1.97	Dark green, some starch.
21	13	2231	1	8.0	.9	1.63	1.30	64.00	1.068	2.95	11.12	2.70	Do.
21	13	2232	1	7.5	.9	1.52	1.09	60.20	1.068	2.93	11.12	2.77	Do.
23	14	2342	1	9.8	1.0	1.72	1.28	58.29	1.072	2.93	12.06	2.69	Do.
23	14	2343	1	7.8	1.1	1.83	1.42	63.15	1.059	3.42	8.61	2.18	Do.
23	14	2344	1	9.0	1.0	1.60	1.16	61.93	1.070	2.86	11.38	2.86	Do.
23	14	2345	1	8.0	1.0	1.52	1.10	67.52	1.071	2.70	11.88	2.88	Do.
25	15	2482	1	8.0	.9	1.36	1.12	62.13	1.068	2.66	11.53	2.90	Do.
25	15	2483	1	9.0	.9	1.69	1.28	58.42	1.073	2.54	12.77	2.91	Do.
25	15	2484	1	8.5	1.0	1.72	1.21	58.33	1.076	2.29	13.54	3.08	Do.
25	15	2485	1	8.8	.9	1.60	1.20	60.64	1.070	2.80	11.72	3.14	Do.
28	16	2646	1	9.7	.9	1.50	1.04	60.80	1.074	2.56	12.91	2.59	Do.
28	16	2647	1	10.3	1.0	1.78	1.32	64.16	1.057	4.14	8.02	1.89	Do.
28	16	2648	1	8.0	.9	1.57	1.20	49.08	1.075	2.24	13.22	2.77	Do.
28	16	2649	1	7.6	.9	1.48	1.05	68.42	1.071	2.71	12.73	2.07	Do.
Oct. 1	16*	2705	1	6.0	1.0	1.86	1.46	46.33	1.077	2.77	13.02	3.06	Green.
5	16	2758	1	9.8	1.0	2.06	1.43	65.48	1.067	2.87	11.79	2.12	Light green.
7	16	2823	1	9.5	1.0	1.52	1.15	61.45	1.079	2.14	13.53	3.85	Green.
12	16	2938	1	10.0	1.0	1.98	1.38	61.84	1.078	2.17	13.71	3.33	Brownish green.
14	16	2985	1	9.3	.9	1.91	1.05	60.00	1.077	1.73	13.75	3.13	Dark green.
15	16	3016	1	9.5	1.0	1.96	1.47	64.17	1.074	2.26	12.78	4.23	Do.
16	17	3053	1	11.0	1.0	1.89	1.32	61.33	1.084	1.99	14.56	4.48	Very dark green.
19	17	3110	1	7.9	1.1	1.91	1.40	62.54	1.085	1.75	14.98	4.34	Dark green.
21	18	3142	1	8.0	.9	1.19	.86	60.76	1.069	2.16	11.22	3.88	Dirty green.

* Topped August 28.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 22	17	3173	1	9.6	0.8	1.30	1.02	53.03	1.080	2.33	13.57	4.15	Light green.
26	17	3237	1	8.4	.9	1.23	1.06	60.74	1.074	2.50	13.50	2.06	Do.
28	18	3295	1	8.0	.7	.86	.63	59.03	1.073	2.50	12.45	2.90	Green.
29	18	3326	1	6.5	.9	1.07	.69	62.74	1.074	2.18	12.01	3.64	Very ligh green.
Nov. 2	18	3371	1	8.0	.9	.....	1.09	63.23	1.070	2.02	13.05	2.26	Light greten.
4	17	3406	1	8.0	1.0	1.54	1.33	56.29	1.077	1.51	13.36	3.61	Dark green.
5	18	3437	1	5.8	1.1	1.47	1.28	60.14	1.067	1.92	12.09	3.19	Do.
4	18	3515	1	7.0	.9	1.00	.86	65.13	1.071	2.10	11.91	2.94	Do.

TABLE No. 30.—SUMAC. J. H. WIGHTON, MOUNT OLIVE, ALA.

Aug. 2	1	375	2	7.2	1.0	3.54	2.73	65.81	1.049	6.67	3.85	2.11	Light green.
2	2	376	1	8.5	1.0	2.08	1.63	65.27	1.045	6.07	3.70	2.10	Do.
2	3	377	1	8.3	1.0	2.02	1.58	68.20	1.048	6.48	3.64	2.14	Do.
2	4	378	1	8.4	.9	1.79	1.39	66.61	1.048	5.84	4.26	2.30	Do.
5	4	485	1	8.0	1.2	2.21	1.78	62.39	1.053	5.06	5.70	2.73	Dark green, starchy.
19	6	967	1	8.3	.8	1.35	1.05	62.82	1.060	5.07	7.70	2.65	Do.
19	6	968	1	8.5	.9	1.70	1.34	65.35	1.055	5.15	6.56	2.46	Do.
19	7	969	1	8.5	1.0	2.21	1.78	64.69	1.060	4.78	7.56	3.18	Do.
19	7	970	1	9.0	1.1	2.51	2.01	66.67	1.059	4.73	7.70	2.96	Do.
19	8	971	1	9.2	.9	2.03	1.60	62.55	1.062	4.28	8.68	2.67	Do.
19	8	972	1	8.5	.9	2.24	1.76	65.73	1.062	4.25	9.10	2.42	Do.
23	9	1111	1	9.5	.8	1.21	.88	66.83	1.059	1.70	10.70	2.43	Do.
23	9	1112	1	9.1	.9	1.96	1.36	62.90	1.061	4.18	8.84	2.48	Do.
25	9	1233	1	9.7	1.1	2.83	2.01	64.95	1.061	3.62	9.79	2.19	Do.
25	9	1234	1	9.6	1.0	2.26	1.58	63.13	1.062	4.05	9.36	2.22	Do.
30	10	1427	1	8.9	.9	1.62	1.14	64.61	1.061	4.15	9.00	2.50	Do.
30	10	1428	1	8.7	.8	1.96	1.30	64.83	1.061	3.98	9.42	2.15	Do.
Sept. 2	11	1587	1	9.2	1.0	1.69	1.30	67.59	1.059	4.24	8.20	2.43	Dark green, some starch.
2	11	1588	1	9.2	1.0	1.94	1.31	66.67	1.060	3.94	8.80	2.36	Do.
7	12	1793	1	9.4	1.2	3.03	2.09	64.45	1.067	3.37	9.99	2.77	Dark green, starchy.
7	12	1794	1	9.0	.9	1.70	1.18	66.34	1.064	3.40	10.15	2.28	Do.
15	13	2003	1	8.2	1.3	2.75	1.97	64.77	1.071	3.18	9.33	4.93	Do.
15	13	2004	1	8.0	1.0	1.91	1.33	64.17	1.073	2.78	11.29	3.92	Do.
22	14	2295	1	9.4	1.1	2.48	1.84	58.85	1.070	2.65	12.26	2.52	Dark green, some starch.
22	14	2296	1	9.0	1.0	1.69	1.35	59.34	1.073	2.70	13.26	2.21	Do.
25	14	2496	1	8.7	1.1	2.42	1.56	63.09	1.074	2.53	11.97	3.98	Do.
25	14	2497	1	9.4	1.1	2.15	1.65	56.95	1.074	2.33	12.21	4.22	Do.
Oct. 6	15	2774	1	8.9	1.1	2.92	2.04	61.70	1.079	1.24	11.26	5.94	Dark green, starchy.
8	15	2862	1	8.3	1.1	2.18	1.51	58.10	1.087	2.18	.....	.....	Green.
15	16	3021	1	8.9	1.1	2.59	1.84	63.64	1.083	2.35	14.32	4.38	Dark green.
16	16	3058	1	8.0	.9	1.92	1.42	65.07	1.083	1.65	14.33	4.90	Very dark green.
22	16	3178	1	8.0	1.1	2.18	1.57	60.00	1.084	1.90	15.01	3.40	Dark green.
26	16	3242	1	8.9	1.1	1.79	1.50	60.82	1.083	2.42	16.06	2.02	Do.
4	17	3413	1	9.0	1.1	1.57	1.32	55.83	1.076	1.82	13.74	2.74	Do.
13	17	3520	1	7.5	.9	1.65	1.29	62.76	1.076	1.21	13.97	3.48	Do.

TABLE No. 31.—HONDURAS. ARSENAL GROUNDS.

July 22	1	107	2	7.4	0.8	2.87	1.97	36.12	1.032	3.39	8.40?	3.80?	
24	1	152	1	7.8	.9	1.62	1.16	54.71	1.028	3.71	1.31	2.32	Brownish.
26	2	179	1	9.5	.9	1.29	.89	49.01	1.028	3.28	1.99	1.78	Dark green.
26	3	201	2	8.5	.8	2.66	1.98	48.94	1.038	3.16	4.27	2.10	Dark green, starchy.
26	4	202	2	9.0	.7	1.80	1.29	40.75	1.042	3.90	3.82	2.79	Do.
30	5	293	1	10.1	.7	2.10	1.63	64.50	1.044	3.08	5.60	2.34	Lighter green, starchy.
Aug. 2	6	363	1	10.8	1.1	1.69	1.32	56.00	1.045	2.83	5.77	2.93	Do.
6	7	519	1	10.5	1.0	1.42	1.14	68.85	1.041	5.13	3.08	2.02	Thin, watery.
7	8	550	1	9.7	.8	1.13	.79	57.42	1.049	3.31	5.53	3.08	Darker green watery.
9	8	582	1	10.1	.9	2.10	1.65	68.88	1.043	2.04	7.01	1.88	Thin, watery.
10	9	606	1	11.2	1.0	1.27	.90	50.00	1.051	2.47	7.01	3.03	Dark green, starchy.
10	9	607	1	10.5	.9	1.71	1.26	55.85	1.053	1.12	8.64	3.06	Do.
10	9	608	1	10.0	1.1	1.44	1.09	54.73	1.051	2.21	7.34	2.91	Do.
10	9	609	1	9.1	1.0	1.77	1.32	70.34	1.048	4.47	5.84	1.71	Dark green. watery.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 14	8	799	1	6.5	0.9	2.11	1.81	57.71	1.051	1.11	Lost.	Lost.	Dark green, watery.
14	8	800	1	10.4	1.0	1.88	1.42	68.37	1.052	3.15	7.51	2.41	Do.
14	8	801	1	9.7	1.2	1.54	1.02	59.13	1.051	2.37	7.33	2.81	Do.
14	8	802	1	10.0	.9	1.36	.96	53.10	1.052	1.37	8.45	2.73	Do.
17	9	903	1	10.3	1.3	2.24	1.88	72.01	1.034	3.76	2.58	2.22	Dark green, starchy.
17	9	904	1	10.0	1.2	1.41	.99	48.00	1.051	1.38	7.99	2.95	Do.
17	9	905	1	10.2	.8	1.22	.87	50.15	1.055	1.19	10.77	1.41	Do.
17	9	906	1	11.3	.9	1.82	1.46	67.37	1.047	3.78	6.06	1.91	Do.
23	9	1089	1	10.0	1.0	1.37	.95	48.58	1.051	2.31	7.34	2.72	Do.
23	9	1090	1	10.0	1.1	2.16	1.62	72.52	1.042	4.20	4.53	2.45	Do.
23	9	1091	1	8.5	1.0	1.36	.92	53.12	1.050	1.07	8.50	3.00	Do.
23	9	1092	1	11.0	.9	1.14	.81	47.97	1.045	1.91	5.64	3.17	Do.
25	10	1213	1	12.0	.9	1.72	1.16	54.63	1.047	2.87	6.26	2.91	Do.
25	10	1214	1	9.2	.9	1.39	.94	49.54	1.050	1.37	8.25	2.90	Do.
25	10	1215	1	8.2	.9	1.32	.80	46.96	1.046	.84	7.58	2.77	Dark brown, starchy.
25	10	1216	1	12.1	1.0	1.32	.91	48.68	1.050	2.39	6.59	3.16	Dark green, starchy.
28	11	1361	1	7.7	1.0	2.38	1.64	69.04	1.022	3.06	1.46	1.11	Dark brown, watery.
28	11	1362	1	9.9	1.1	2.18	1.66	66.63	1.055	2.37	8.73	2.79	Dark green, starchy.
28	11	1363	1	9.7	1.0	1.45	.98	54.15	1.038	2.61	3.95	2.50	Dark green, watery.
28	11	1364	1	10.4	1.0	1.58	1.21	67.03	1.043	4.61	4.38	2.04	Do.
Sept. 2	12	1565	1	10.3	1.0	1.52	.97	50.45	1.032	1.21	3.45	2.70	Dark green, some starch.
2	12	1566	1	11.6	.9	1.36	.88	55.97	1.042	1.76	5.84	2.14	Do.
2	12	1567	1	10.1	.9	1.25	.83	47.60	1.035	2.07	3.54	2.75	Dark brown, some starch.
2	12	1568	1	9.5	1.0	1.22	.86	44.72	1.062	1.93	9.23	3.29	Do.
6	12	1721	1	10.6	.9	1.61	1.04	46.41	1.030	2.28	2.97	2.37	Dark green, some starch.
6	12	1722	1	9.6	.6	.84	.75	29.49	1.053	.95	6.73	4.28	Do.
6	12	1723	1	9.9	1.2	1.69	1.21	54.19	1.047	2.33	5.80	3.19	Do.
6	12	1724	1	9.7	.9	1.42	.89	47.77	1.056	1.10	8.22	4.22	Do.
14	13	1969	1	11.3	1.2	2.29	1.86	69.54	1.048	4.53	5.59	1.00	Light green, some starch.
14	13	1970	1	11.0	1.1	1.69	1.46	67.57	1.047	3.64	6.09	1.78	Do.
14	13	1971	1	10.7	1.0	1.29	1.04	68.14	1.045	4.46	4.78	1.67	Do.
14	13	1972	1	9.8	1.0	1.09	.80	44.47	1.053	2.62	6.69	2.98	Do.
21	14	2221	1	10.8	.7	.68	.43	46.19	1.052	2.19	7.25	2.11	Thin, watery.
21	14	2222	1	10.3	1.0	1.91	1.64	60.64	1.073	2.16	12.67	2.88	Do.
21	14	2223	1	9.1	.8	1.17	.79	46.32	1.064	2.11	9.15	3.86	Do.
21	14	2224	1	9.0	1.1	1.11	.74	41.96	1.069	.82	12.11	3.46	Do.
23	15	2334	1	10.6	1.2	3.17	2.44	64.59	1.062	2.54	10.56	2.01	Dark green, some starch.
23	15	2335	1	12.6	1.2	2.57	2.24	67.05	1.057	2.48	6.47	5.00	Do.
23	15	2336	1	9.2	.9	1.05	.74	47.44	1.066	1.35	11.06	3.30	Do.
23	15	2337	1	8.1	.8	1.12	.81	49.04	1.058	2.33	8.79	2.77	Do.
25	15	2474	1	11.6	1.1	2.24	1.82	64.00	1.065	2.37	11.48	2.72	Do.
25	15	2475	1	10.4	1.2	1.87	1.58	65.04	1.045	4.43	5.60	2.10	Do.
25	15	2476	1	11.6	1.2	2.40	2.06	65.02	1.061	3.35	9.98	2.27	Do.
25	15	2477	1	12.0	1.2	2.28	1.96	64.15	1.063	2.96	10.55	2.72	Do.
28	16	2638	1	11.6	1.0	1.69	1.24	46.97	1.056	.96	9.50	2.61	Do.
28	16	2639	1	9.6	1.1	1.43	.90	48.53	1.054	1.52	8.27	2.78	Do.
28	16	2640	1	11.3	1.2	2.46	1.91	67.43	1.061	3.12	9.50	2.46	Do.
28	16	2641	1	10.3	1.0	1.25	.88	44.97	1.062	1.81	9.93	3.14	Do.
Oct. 1	16*	2703	1	7.5	1.2	1.70	1.47	69.70	1.056	2.89	6.77	4.30	Green.
5	16	2756	1	13.4	1.3	3.60	2.78	68.30	1.060	2.77	10.59	1.87	Very light green.
7	16	2821	1	13.6	1.3	3.06	2.66	71.19	1.059	3.31	9.06	2.45	Green.
12	16	2936	1	9.6	.8	.92	.61	44.44	1.072	1.28	12.12	4.49	Light green, starchy.
14	16	2983	1	11.5	1.0	1.99	1.81	65.08	1.070	3.15	10.94	2.97	Light green.
15	18	3014	1	11.9	1.0	1.59	1.28	64.66	1.054	3.36	7.40	3.38	Brown.
16	17	3051	1	13.0	1.0	2.16	1.89	66.63	1.071	2.68	11.31	3.72	Dark green.
19	17	3108	1	9.5	.8	1.06	.76	50.14	1.069	1.12	11.57	3.96	Dirty green.
20	17	3135	1	11.5	1.1	1.89	1.76	63.75	1.074	2.86	12.56	3.71	
22	18	3171	1	9.5	1.0	1.43	.99	42.92	1.060	.94	9.54	4.19	Dark straw.
26	18†	3235	1	6.8	1.2	.....	1.84	65.27	1.066	3.40	9.80	3.04	Light green.
28	17	3293	1	10.3	1.0	1.36	1.02	47.62	1.072	1.14	12.54	3.76	Green.
29	17	3324	1	9.6	1.1	2.04	1.65	67.25	1.073	2.42	12.60	2.45	Light green.
Nov. 2	18	3385	1	12.8	1.1	.....	1.15	47.14	1.065	1.56	10.73	.39	Do.
4	17	3404	1	11.5	1.5	2.06	1.97	66.33	1.073	2.74	12.05	2.73	Yellowish green.
5	18†	3435	1	6.8	1.0	1.56	1.54	65.76	1.064	2.54	11.43	3.09	Do.
12	18†	3513	1	5.8	.9	.76	.71	48.76	1.049	1.22	6.88	3.24	Brown.

* Topped August 28.

† Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

TABLE No. 32.—HONEY CANE. J. H. CLARK, PLEASANT HILL, LA.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 30	1	290	1	7.7	1.2	2.79	2.26	66.15	1.036	4.72	2.74	2.00	Brownish.
30	2	291	1	8.1	1.1	2.95	2.39	66.69	1.034	4.61	2.38	1.67	Lighter brown.
Aug. 4	3	433	1	9.1	1.1	2.74	2.14	69.34	1.037	4.63	5.54?	.86?	Light green, starchy.
6	3	516	1	9.7	1.2	2.54	2.10	71.28	1.033	4.50	1.72	2.25	Thin, watery.
7	4	544	1	9.8	1.3	3.08	2.47	65.81	1.038	4.61	3.74	1.57	Light green, watery.
9	5	578	1	9.1	1.2	2.95	2.33	67.11	1.043	4.71	4.66	1.80	Watery, some starch.
11	4	654	1	10.0	1.3	3.10	2.56	71.37	1.035	4.75	2.70	1.63	Dark green, watery.
11	4	655	1	10.5	1.1	3.01	2.40	60.60	1.038	4.73	2.35	2.75	Do.
11	4	656	1	10.3	1.3	3.37	2.74	69.08	1.033	4.68	2.45	1.58	Do.
11	4	657	1	9.6	1.3	3.21	2.59	65.17	1.038	4.43	3.57	2.02	Do.
14	5	783	1	10.9	1.0	2.68	2.10	60.83	1.041	4.33	4.71	1.72	Dark green.
14	5	784	1	11.5	1.2	2.87	2.51	69.00	1.041	4.31	4.58	1.68	Do.
14	5	785	1	11.5	1.1	2.93	2.36	70.70	1.042	4.63	4.45	1.86	Do.
14	5	786	1	10.0	1.1	2.60	2.05	70.00	1.043	4.48	4.92	1.72	Do.
17	5	887	1	11.0	1.1	2.75	2.20	70.62	1.043	Lost.	Lost.	Lost.	Dark green, watery.
17	5	888	1	11.2	1.1	2.86	2.39	69.98	1.043	4.30	4.62	1.91	Do.
17	5	889	1	11.9	1.1	2.75	2.30	69.70	1.043	4.77	4.10	2.06	Do.
17	5	890	1	10.6	1.2	2.93	2.42	71.00	1.040	Lost.	Lost.	Lost.	Do.
18	5	913	1	11.0	1.3	3.20	2.60	70.93	1.040	4.21	4.00	1.93	Do.
18	5	914	1	11.0	1.1	2.61	2.13	74.95	1.040	4.51	3.92	1.71	Do.
18	5	915	1	11.5	1.1	3.09	2.51	69.55	1.045	4.45	5.20	1.79	Do.
18	5	916	1	10.4	1.2	2.32	1.93	68.80	1.043	4.37	4.54	1.97	Do.
21	6	1068	1	11.0	1.1	2.75	2.25	72.66	1.045	3.89	5.97	1.86	Thin, watery.
21	6	1069	1	11.8	1.1	2.79	2.32	70.30	1.044	4.31	5.23	2.05	Do.
21	6	1070	1	11.5	1.1	2.97	2.46	70.52	1.047	4.34	6.55	1.38	Do.
21	6	1071	1	9.8	1.0	2.08	1.77	67.00	1.048	4.88	5.80	1.49	Do.
25	7	1201	1	12.4	1.1	3.59	2.68	68.54	1.049	3.28	7.41	1.89	Dark green, starchy.
25	7	1202	1	12.3	1.2	3.05	Lost.	Lost.	1.045	4.17	5.97	1.68	Do.
25	7	1203	1	12.2	1.1	2.70	2.18	70.00	1.047	4.24	6.52	1.42	Do.
25	7	1204	1	12.4	1.1	2.47	Lost.	Lost.	1.048	4.35	6.51	1.40	Do.
27	8	1331	1	12.1	1.1	2.72	2.18	69.39	1.055	3.65	7.44	2.89	Do.
27	8	1332	1	12.0	1.3	3.09	2.60	67.07	1.050	4.07	6.45	2.19	Do.
27	8	1333	1	11.5	1.2	2.97	2.36	59.18	1.055	3.58	7.87	2.41	Do.
27	8	1334	1	11.4	1.0	2.83	2.22	69.74	1.051	4.00	6.80	2.14	Do.
Sept. 2	9	1553	1	12.1	1.1	3.05	2.46	60.71	1.054	3.56	7.55	2.22	Dark green, some starch.
2	9	1554	1	12.7	1.1	3.30	2.63	71.15	1.052	3.53	8.05	1.35	Do.
2	9	1555	1	13.3	1.1	3.50	2.83	64.36	1.053	3.80	8.23	1.22	Do.
2	9	1556	1	9.7	1.0	2.90	2.26	70.82	1.051	4.03	7.26	1.17	Do.
6	10	1705	1	11.7	1.0	2.54	2.02	69.74	1.061	2.73	10.43	2.25	Dark green, starchy.
6	10	1706	1	12.1	1.1	2.89	2.38	69.01	1.056	3.40	9.05	1.99	Do.
6	10	1707	1	11.3	1.3	3.01	2.26	69.26	1.051	3.71	8.24	1.13	Do.
6	10	1708	1	10.4	1.2	2.59	2.08	70.58	1.050	3.49	7.27	1.53	Do.
14	11	1953	1	12.8	1.3	3.14	2.59	66.97	1.060	2.77	9.81	1.90	Light green, some starch.
14	11	1954	1	11.9	1.2	2.97	2.48	68.14	1.057	3.09	9.11	2.08	Do.
14	11	1955	1	11.6	1.2	2.71	2.21	59.90	1.057	3.22	8.56	1.94	Do.
14	11	1956	1	11.9	1.3	3.05	1.54	64.14	1.050	4.82	5.89	1.34	Do.
17	10	2094	1	12.2	1.2	4.16	3.16	65.01	1.064	2.82	10.60	2.41	Dark green, starchy.
17	10	2095	1	13.5	1.0	2.57	2.29	69.00	1.055	2.93	9.38	1.62	Do.
17	10	2096	1	11.8	1.3	2.79	1.97	69.49	1.049	4.71	6.11	1.72	Do.
17	10	2097	1	11.3	1.3	2.64	2.38	68.61	1.058	2.94	8.54	3.17	Do.
21	11	2209	1	12.0	1.0	2.72	2.29	64.80	1.063	2.12	11.39	2.25	Thin, watery.
21	11	2210	1	12.6	1.1	2.55	2.01	67.43	1.055	3.35	8.95	1.44	Do.
21	11	2211	1	11.1	1.3	2.55	2.32	69.31	1.058	2.61	9.53	2.23	Do.
21	11	2212	1	12.0	.9	1.94	1.60	61.74	1.065	2.68	11.08	2.30	Do.
23	12	2318	1	13.2	1.0	2.65	2.28	66.08	1.063	2.42	10.88	1.36	Dark green, some starch.
23	12	2319	1	10.4	1.6	4.68	3.94	66.31	1.060	3.38	13.80	2.05	Dark green, watery.
23	12	2320	1	13.3	1.2	2.73	2.33	66.54	1.059	3.01	10.04	1.59	Do.
23	12	2321	1	11.0	1.2	2.64	2.32	66.19	1.063	2.46	10.43	2.45	Do.
25	13	2462	1	13.4	1.0	2.66	2.24	68.66	1.049	3.50	7.78	1.49	Dark green, some starch.
25	13	2463	1	13.7	1.2	2.90	2.62	65.89	1.061	2.75	10.28	2.57	Do.
25	13	2464	1	12.8	1.0	1.76	1.35	62.43	1.063	2.76	10.89	2.38	Do.
25	13	2465	1	10.3	1.0	2.11	1.84	67.66	1.050	4.17	6.44	2.06	Do.
28	14	2622	1	12.0	1.2	2.84	2.30	63.92	1.065	1.94	11.64	2.38	Do.
28	14	2623	1	11.1	1.3	2.91	2.46	67.88	1.059	2.99	9.21	2.39	Do.
28	14	2624	1	12.0	1.3	3.08	2.60	67.11	1.063	2.40	10.92	2.21	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 28	14	2624	1	11.0	1.1	2.21	2.01	57.15	1.046	4.41	5.39	1.58	Dark green, some starch.
Oct. 1	15*	2699	1	9.2	1.5	3.10	2.59	65.56	1.071	1.69	12.92	3.05	Green, turbid.
4	15	2749	1	12.3	1.3	2.90	2.56	61.45	1.069	1.67	12.72	3.21	Very light green.
7	15	2817	1	13.0	1.1	2.78	1.11	65.47	1.058	2.95	8.96	2.55	Green.
12	15	2932	1	13.3	1.1	3.35	2.82	63.34	1.069	1.46	12.74	3.29	Light green, starchy.
13	15	2979	1	12.2	1.1	2.11	1.97	67.72	1.066	2.72	11.56	2.23	Light green.
15	16	3011	1	12.6	1.3	2.83	2.46	63.48	1.071	1.47	13.15	4.05	Do.
16	16	3048	1	12.9	1.1	2.07	1.83	61.54	1.071	1.67	12.65	3.25	Dark green.
19	16	3105	1	12.3	1.1	2.53	2.24	66.92	1.070	1.55	12.79	3.21	Light green.
20	16	3132	1	10.6	1.1	2.48	2.22	65.05	1.069	1.83	12.64	3.72	
22	17	3167	1	12.9	1.0	1.96	1.74	60.28	1.078	1.59	13.11	5.10	Dark straw.
25	17	3222	1	12.3	1.2	2.28	2.18	64.18	1.076	2.09	12.96	3.05	Light green.
27	17	3278	1	12.0	1.2	2.26	2.19	65.66	1.076	2.21	13.41	3.12	Do.
29	17	3317	1	10.7	1.1	1.91	1.73	65.61	1.074	2.36	12.47	2.77	Very light brown.
30	17	3347	1	12.5	1.3	2.68	2.46	67.11	1.070	1.58	12.60	3.86	Light green.
Nov. 3	17	3396	1	11.6	1.1	2.37	2.26	62.79	1.079	2.73	12.83	4.18	Do.
5	18†	3432	1	5.7	1.4	2.53	2.44	69.40	1.060	1.86	11.00	2.14	Dark green.
10	18	3489	1	11.0	1.3	2.74	2.68	70.58	1.065	2.41	11.16	3.09	Yellowish green.
12	18	3510	1	11.3	1.1	2.12	2.01	67.87	1.063	2.41	10.49	3.59	Light green.
15	18	3539	1	6.5	1.2	1.73	1.64	70.82	1.049	3.76	5.93	2.18	Yellowish green.

TABLE No. 33.—SPRANGLE TOP. WILLIS POPE, ALA.

3	1	393	1	8.0	1.2	2.36	1.79	69.61	1.036	5.07	7.49?	1.66	Light green, starchy.
4	1	434	1	8.2	1.1	2.48	1.85	70.37	1.034	5.07	2.13	1.60	Do.
7	2	545	1	8.9	1.2	2.79	2.17	68.39	1.036	4.83	2.45	2.04	Light green, watery.
9	3	580	1	9.0	1.1	2.56	1.99	68.80	1.039	5.11	3.23	1.67	Watery, some starch.
11	1	662	1	9.4	1.2	2.40	1.93	69.83	1.024	3.89	.71	1.85	Dark green, watery.
11	1	663	1	9.4	1.1	2.30	1.80	70.95	1.034	4.76	2.53	1.46	Do.
11	1	664	1	8.9	1.1	2.45	1.93	70.90	1.036	4.75	2.96	1.94	Do.
11	1	665	1	9.0	.9	2.22	1.58	68.19	1.038	5.15	3.25	1.28	Do.
14	2	791	1	11.0	1.1	2.88	2.23	70.37	1.034	4.56	1.98	2.26	Do.
14	2	792	1	10.6	1.1	2.57	1.99	69.76	1.035	4.35	2.14	2.40	Do.
14	2	793	1	10.5	1.0	2.70	2.12	63.83	1.039	5.03	2.54	2.44	Do.
14	2	794	1	10.0	1.0	2.04	1.88	60.29	1.037	4.71	2.67	2.31	Do.
17	2	895	1	10.6	1.0	2.05	1.63	70.54	1.041	4.68	3.89	1.76	Dark green, starchy.
17	2	896	1	11.2	1.3	2.75	2.28	68.00	1.040	4.97	3.44	1.45	Do.
17	2	897	1	11.0	1.0	2.29	1.85	67.62	1.038	5.10	2.74	1.75	Do.
17	2	898	1	11.0	1.1	2.88	2.38	68.95	1.039	4.53	3.63	1.56	Do.
21	3	1076	1	11.0	.9	1.86	1.48	71.80	1.036	4.61	3.30	1.45	Thin, watery.
21	3	1077	1	11.1	1.0	2.04	1.61	70.29	1.040	4.82	4.28	1.24	Do.
21	3	1078	1	10.7	.9	1.95	1.60	69.93	1.043	4.91	4.78	1.34	Do.
21	3	1079	1	11.0	1.0	1.84	1.50	72.73	1.037	4.40	3.31	2.27	Do.
25	4	1209	1	11.6	1.0	1.94	1.52	69.38	1.041	5.34	3.71	1.66	Dark green, starchy.
25	4	1210	1	11.5	1.1	2.00	1.60	69.33	1.043	5.66	3.96	1.65	Do.
25	4	1211	1	11.7	1.1	2.26	1.77	73.13	1.043	5.46	4.19	1.57	Do.
25	4	1212	1	11.0	1.0	1.74	1.42	66.82	1.049	5.90	4.97	1.95	Do.
28	5	1353	1	10.8	.9	1.51	1.16	68.00	1.045	5.33	4.73	1.71	Dark green, watery.
28	5	1354	1	12.2	1.1	2.34	1.90	70.92	1.046	5.00	4.85	2.10	Do.
28	5	1355	1	10.3	.8	1.45	1.11	70.69	1.042	4.89	4.33	1.82	Do.
28	5	1356	1	10.9	1.0	1.95	1.52	69.07	1.046	5.80	4.42	1.60	Do.
30	6	1395	1	12.3	1.0	2.29	1.87	69.69	1.051	4.56	6.75	2.11	Dark green, some starch.
30	6	1396	1	12.5	1.0	2.52	1.86	76.86	1.055	4.61	7.59	1.92	Do.
30	6	1397	1	12.0	1.0	2.06	1.68	69.93	1.045	5.02	5.14	1.85	Do.
30	6	1398	1	12.1	1.0	2.06	1.63	69.27	1.048	4.51	6.16	1.84	Do.
30	7	1403	1	12.6	1.0	2.26	1.85	70.84	1.049	4.51	6.49	1.87	Do.
30	7	1404	1	12.6	1.1	2.61	2.10	70.26	1.050	4.79	6.17	2.18	Do.
30	7	1405	1	12.0	1.0	1.86	1.52	69.27	1.050	4.58	6.62	1.90	Do.
30	7	1406	1	12.6	1.1	2.63	2.10	67.57	1.054	4.68	7.04	2.13	Do.
30	8	1411	1	13.3	1.1	3.04	2.42	69.06	1.051	4.28	7.01	2.22	Do.
30	8	1412	1	11.3	1.0	2.14	1.60	73.45	1.058	3.85	7.68	3.45	Do.
30	8	1413	1	12.0	1.0	2.32	1.81	67.52	1.055	4.53	7.50	2.38	Do.
30	8	1414	1	12.3	1.2	3.03	2.38	69.02	1.052	4.35	6.70	2.69	Do.
30	9	1419	1	11.9	1.1	2.62	2.02	70.99	1.050	4.43	6.67	1.71	Do.
30	9	1420	1	11.0	1.2	2.75	1.74	69.19	1.058	3.79	8.63	2.37	Do.
30	9	1421	1	10.9	1.1	2.30	2.17	67.99	1.055	4.23	7.63	2.26	Do.
30	9	1422	1	11.0	1.1	2.81	2.21	68.30	1.059	3.95	8.73	2.38	Do.

*Topped August 28. †Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 2	10	1561	1	11. 2	1. 2	2. 25	1. 78	69. 55	1. 050	3. 75	7. 11	1. 81	Dark green, some starch.
2	10	1562	1	11. 2	1. 1	2. 64	2. 03	70. 82	1. 055	3. 82	7. 30	2. 48	Do.
2	10	1563	1	11. 4	1. 1	2. 18	1. 66	74. 50	1. 053	3. 99	7. 05	2. 07	Do.
2	10	1564	1	10. 8	1. 1	2. 34	1. 82	68. 96	1. 057	3. 62	9. 14	1. 15	Do.
6	10	1713	1	12. 5	1. 1	2. 60	2. 12	71. 08	1. 057	3. 16	9. 58	1. 88	Dark green, starchy.
6	10	1714	1	11. 0	1. 1	2. 31	1. 80	67. 97	1. 055	4. 06	8. 41	1. 51	Do.
6	10	1715	1	11. 4	1. 3	2. 68	2. 17	70. 96	1. 053	3. 83	8. 09	1. 52	Do.
6	10	1716	1	11. 0	1. 1	2. 36	1. 89	68. 85	1. 056	3. 84	8. 46	2. 14	Do.
14	11	1961	1	11. 2	1. 3	2. 55	2. 14	71. 40	1. 050	4. 14	5. 57	2. 58	Light green, some starch.
14	11	1962	1	10. 5	1. 0	1. 58	1. 32	56. 83	1. 049	5. 42	4. 70	1. 70	Do.
14	11	1963	1	10. 0	1. 1	1. 88	1. 53	69. 20	1. 057	3. 44	8. 57	1. 33	Do.
14	11	1964	1	10. 5	1. 4	3. 25	2. 68	64. 31	1. 054	3. 14	8. 28	1. 72	Do.
21	12	2217	1	12. 8	1. 1	2. 05	1. 69	63. 20	1. 056	4. 06	8. 29	1. 61	Thin, watery.
21	12	2218	1	12. 0	1. 1	2. 01	1. 67	66. 53	1. 051	4. 28	6. 67	1. 75	Do.
21	12	2219	1	12. 0	1. 1	2. 12	1. 80	65. 60	1. 061	3. 74	9. 75	1. 44	Do.
21	12	2220	1	10. 2	1. 3	3. 07	2. 55	63. 70	1. 064	1. 84?	9. 41	4. 59?	Do.
23	13	2326	1	12. 5	1. 2	2. 46	2. 01	65. 85	1. 043	4. 29	5. 15	1. 25	Dark green, watery.
23	13	2327	1	10. 0	1. 1	1. 89	1. 51	66. 13	1. 058	3. 17	8. 55	2. 55	Do.
23	13	2328	1	11. 9	1. 1	2. 49	2. 17	63. 49	1. 066	2. 04	11. 76	2. 71	Dark green, some starch.
23	13	2329	1	12. 1	1. 2	2. 90	2. 20	63. 72	1. 063	1. 63	9. 81?	4. 97?	Do.
25	13	2470	1	11. 8	1. 2	2. 36	1. 96	63. 82	1. 068	2. 07	12. 70	2. 42	Do.
25	13	2471	1	11. 5	1. 2	2. 60	2. 09	66. 67	1. 061	2. 94	9. 98	2. 44	Do.
25	13	2472	1	11. 4	1. 2	2. 26	1. 90	66. 58	1. 060	2. 95	9. 67	2. 86	Do.
25	13	2473	1	11. 9	1. 1	2. 29	2. 03	64. 43	1. 066	2. 37	11. 63	2. 79	Do.
28	14	2630	1	12. 3	1. 1	2. 09	1. 73	56. 22	1. 055	4. 05	7. 92	1. 82	Do.
28	14	2631	1	11. 8	1. 1	2. 09	1. 71	64. 04	1. 064	2. 70	10. 54	2. 56	Do.
28	14	2632	1	10. 0	1. 1	2. 19	1. 28	64. 31	1. 070	1. 88	12. 48	2. 70	Do.
28	14	2633	1	10. 6	1. 3	3. 33	2. 60	63. 85	1. 070	1. 54	13. 18	2. 48	Do.
Oct. 1	14*	2701	1	9. 0	1. 2	2. 45	1. 96	69. 05	1. 068	1. 81	12. 11	3. 18	Green.
5	15	2754	1	12. 0	1. 3	3. 92	3. 20	68. 33	1. 040	4. 28	4. 73	1. 37	Very light green.
7	15	2819	1	10. 6	1. 0	1. 90	1. 60	58. 82	1. 058	3. 66	8. 24	2. 56	Green.
12	15	2934	1	12. 4	1. 1	2. 61	2. 24	70. 60	1. 062	2. 82	10. 51	2. 35	Light green, starchy.
13	15	2981	1	11. 9	1. 0	2. 04	1. 71	65. 69	1. 071	2. 35	12. 34	2. 88	Light green.
15	17	3013	1	12. 8	1. 2	2. 95	2. 57	68. 21	1. 076	1. 88	11. 95	2. 99	Do.
16	16	3050	1	11. 9	1. 0	1. 67	1. 44	73. 28	1. 069	3. 10	11. 16	3. 93	Dark green.
19	16	3107	1	11. 4	1. 1	2. 49	2. 05	64. 81	1. 072	1. 52	13. 02	3. 37	Light green.
20	16	3134	1	11. 5	1. 1	2. 19	2. 05	65. 88	1. 071	2. 86	11. 92	3. 89	
22	16	3169	1	10. 3	1. 1	2. 09‖	1. 76	67. 96	1. 067	Lost.	Lost.	Lost.	Light cinnamon.
25	17	3224	1	10. 1	1. 0	1. 14?	1. 57	64. 04	1. 080	2. 95	12. 81	3. 44	Light green.
27	16	3280	1	10. 5	1. 1	1. 43	1. 29	67. 01	1. 070	3. 97	6. 44?	7. 16?	Do.
29	17	3322	1	11. 7	1. 2	2. 06	1. 82	60. 41	1. 077	1. 92	13. 11	3. 68	Do.
30	18	3349	1	11. 0	1. 2	2. 50	2. 22	69. 31	1. 067	1. 82	11. 63	3. 19	Very light green.
Nov. 4	18	3403	1	11. 0	1. 4	2. 10	2. 00	65. 27	1. 069	2. 58	11. 85	1. 87	Brown.
5	18	3434	1	11. 0	1. 1	1. 89	1. 74	67. 22	1. 065	2. 73	11. 67	2. 74	Light green.
10	18†	3491	1	6. 0	1. 2	1. 53	1. 52	72. 25	1. 060	2. 69	9. 71	3. 14	Do.
12	18	3512	1	11. 3	1. 1	1. 82	1. 73	66. 88	1. 066	1. 58	11. 08	.75?	Do.

*Topped August 28. †Topped.

TABLE No. 34.—HONDURAS. E. LINK, GREENEVILLE, TENN.

Aug. 11	F.	674	1	9. 5	1. 3	3. 45	2. 61	69. 42	1. 033	4. 40	3. 06	1. 40	Dark green, watery.
11	F.	675	1	7. 5	1. 4	2. 97	2. 59	64. 27	1. 032	4. 43	2. 31	1. 69	Do.
11	F.	676	1	8. 4	1. 3	2. 97	2. 35	66. 77	1. 032	4. 88	1. 81	1. 79	Do.
11	F.	677	1	8 6	1. 0	1. 95	1. 52	68. 06	1. 035	4. 89	2. 63	1. 56	Do.
18	1	929	1	11. 0	1. 2	2. 75	2. 25	62. 75	1. 031	4. 23	2. 48	1. 39	Do.
18	1	930	2	8. 9	1. 0	5. 34	4. 29	66. 90	1. 039	3. 97	4. 14	2. 04	Do.
18	1	931	1	10. 6	1. 2	2. 78	2. 26	70. 05	1. 034	4. 34	2. 54	1. 87	Do.
18	1	932	1	10. 0	1. 0	2. 06	1. 61	70. 98	1. 036	4. 91	3. 05	1. 31	Do.
23	2	1101	1	8. 9	1. 0	2. 02	1. 49	67. 97	1. 051	3. 76	7. 14	2. 09	Dark green, some starch.
23	2	1102	1	10. 8	1. 0	2. 61	2. 10	65. 65	1. 042	4. 71	4. 48	1. 80	Do.
23	2	1103	1	11. 3	1. 2	2. 95	2. 42	68. 65	1. 039	4. 61	4. 26	1. 67	Do.
23	2	1104	1	11. 5	1. 0	2. 36	1. 90	69. 94	1. 036	4. 62	4. 66	.32	Do.
25	3	1225	1	12. 4	1. 1	2. 77	2. 21	60. 56	1. 037	4. 71	3. 77	1. 45	Dark green, starchy.
25	3	1226	1	11. 2	.9	2. 07	1. 64	60. 48	1. 040	4. 80	4. 19	1. 44	Do.
25	3	1227	1	11. 0	.9	1. 91	1. 52	69. 71	1. 036	5. 19	3. 09	1. 61	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 25	3	1228	1	11.3	1.1	2.18	1.72	70.26	1.035	4.40	3.33	1.50	Dark green, starchy.
28	4	1369	1	12.8	1.2	3.30	2.68	69.26	1.041	4.38	5.14	1.38	Dark green, watery.
28	4	1370	1	12.1	1.4	4.92	4.05	63.63	1.041	4 79	4.19	1.68	Do.
28	4	1371	1	12.1	1.2	3.70	3.16	67.87	1.045	4.32	5.26	2.00	Dark green, starchy.
28	4	1372	1	11.4	1.0	1.97	1.59	68.56	1.042	5.23	4.21	1.64	Dark green, watery.
Sept. 2	5	1577	1	12.0	.8	1.85	1.48	70.77	1.037	5.05	3.33	1.31	Dark brown, some starch.
2	5	1578	1	12.5	1.0	2.57	2.08	70.37	1.048	4.95	5.43	1.73	Do.
2	5	1579	1	12.3	1.0	2.26	1.74	72.53	1.043	4.95	4.31	1.62	Do.
2	5	1580	1	11.3	.7	1.52	1.21	65.87	1.046	5.05	5.19	1.43	Do.
6	6	1737	1	13.4	1.2	2.83	2.24	59.72	1.051	4.28	7.14	1.81	Dark green, some starch.
6	6	1738	1	12.4	1.2	2.77	2.33	60.26	1.056	4.18	7.95	1.89	Do.
6	6	1739	1	12.2	1.3	3.01	2.53	67.04	1.053	4.19	7.77	1.43	Do.
6	6	1740	1	11.3	1.0	1.74	1.40	66.61	1.056	1.63	10.00	2.67	Do.
14	8	1977	1	12.0	1.2	2.63	2.23	69.66	1.057	4.03	6.89	3.22	Light green, some starch.
14	8	1978	1	12.3	1.4	3.00	2.50	66.22	1.054	3.97	7.29	2.13	Do.
14	8	1979	1	12.6	1.3	3.03	2.54	71.08	1.053	4.57	6.74	1.60	Do.
14	8	1980	1	12.0	1.0	1.71	1.45	72.60	1.050	4.56	6.19	1.54	Do.
21	9	2233	1	12.0	1.2	1.51?	2.25	66.24	1.060	3.42	9.52	2.16	Thin, watery.
21	9	2234	1	10.6	1.2	3.28	Lost.	Lost.	1.066	2.57	10.93	2.82	Dark green, starchy.
21	9	2235	1	10,2	1.2	1.73	Lost.	Lost.	1.052	4.30	6.75	2.26	Thin, watery.
21	9	2236	1	11.5	1.0	1.78	1.43	62.96	1.055	4.30	7.89	1.69	Do.
23	10	2346	1	12.7	1.2	2.90	2.43	58.13	1.060	3.47	9.92	1.51	Dark green, some starch.
23	10	2347	1	12.8	1.1	2.52	2.09	68.87	1.057	3.96	8.54	1.78	Do.
23	10	2348	1	12.2	1.2	2.64	2.22	67.73	1.062	3.13	10.17	2.29	Do.
23	10	2349	1	12.7	1.3	2.95	2.65	67.44	1.052	3.30	7.68	2.04	Do.
25	11	2486	1	13.5	1.2	3.32	2.88	67.59	1.057	3.07	9.50	2.19	Do.
25	11	2487	1	13.2	1.2	3.78	3.16	67.52	1.060	2.90	8.76	3.77	Do.
25	11	2488	1	12.1	1.2	3.52	2.94	67.26	1.058	2.80	9.35	2.07	Do.
25	11	2489	1	12.0	1.0	2.33	1.94	65.90	1.060	2.98	9.85	2.46	Do.
Oct. 1	11*	2706	1	8.5	1.1	2.41	2.13	66.45	1.069	3.33	11.26	2.22	Green.
5	12	2759	1	12.3	1.3	3.52	2.85	66.51	1.067	1.69	12.53	2.51	Very light green, starchy.
7	12	2824	1	13.0	1.3	4.28	3.48	68.39	1.069	1.73	12.46	2.84	Green.
12	12	2939	1	10.0	1.0	1.86	1.52	58.24	1.072	1.71	13.02	3.21	Light green, starchy.
14	12	2986	1	10.1	1.0	2.15	1.74	67.08	1.076	2.07	13.29	3.24	Dark green.
15	13	3017	1	13.5	1.3	2.84	2.51	66.02	1.068	2.47	8.77?	6.55?	Light green.
16	13	3054	1	12.8	1.2	2.76	2.44	61.26	1.072	1.67	13.04	3.63	Very dark green.
19	13	3111	1	11.4	1.3	2.02	1.88	68.42	1.062	2.86	10.31	2.84	Light green.
21	13	3143	1	11.4	1.0	1.87	1.65	64.40	1.073	2.27	12.37	3.53	Do.
22	13	3174	1	13.3	1.3	2.79	2.39	67.92	1.068	2.46	10.59	4.08	Dark green.
26	14	3238	1	13.0	1.3	2.71	2.56	64.03	1.074	2.71	13.63	2.14	Light green.
28	14	3296	1	11.5	1.0	1.43	1.30	62.84	1.074	3.23	12.24	3.01	Green.
29	14	3327	1	11.5	1.1	1.61	1.44	63.05	1.073	2.68	12.00	3.36	Deep brown.
Nov. 2	14	3372	1	12.5	1.1	.....	1.90	66.94	1.073	4.90	10.06	2.89	Olive green.
4	15	3407	1	11.5	1.1	1.77	1.63	57.95	1.077	4.53	10.78	3.22	Dark straw.
4	15	3417	1	12.3	1.4	2.17	2.13	64.94	1.074	4.07	11.17	3.63	Light olive.
13	16	3516	1	11.0	1.0	1.40	1.34	67.87	1.065	3.65	10.31	2.00	Light green.

* Topped August 28.

TABLE No. 35.—HONEY TOP OR TEXAS CANE. BRUSSELS, MO.

Aug. 6	1	517	1	8.0	1.1	2.15	1.72	68.72	1.033	5.07	1.28	2.31	Thin, watery.
9	1	579	1	8.5	1.1	2.82	2.18	68.38	1.037	4.88	3.13	1.68	Watery, some starch.
13	2	768	1	9.8	1.1	2.63	2.05	70.92	1.038	4.54	3.16	1.93	Very dark green.
11	1	658	1	10.5	1.3	3.34	2.55	70.87	1.029	4.45	1.68	1.60	Dark green, watery.
11	1	659	1	9.1	1.0	1.98	1.52	70.00	1.030	4.99	2.18	1.64	Do.
11	1	660	1	9.7	1.1	2.20	1.76	71.69	1.032	4.84	1.73	1.81	Do.
11	1	661	1	9.2	1.1	2.45	1.96	69.74	1.033	4.90	2.15	1.62	Do.
14	2	787	1	11.1	1.1	2.73	2.20	71.03	1.033	4.66	2.45	1.51	Dark green.
14	2	788	1	10.4	1.1	2.51	1.98	72.20	1.036	4.86	2.47	1.98	Do.
14	2	789	1	10.8	1.3	2.50	1.98	71.33	1.032	4.84	1.76	1.64	Dark green, watery.
14	2	790	1	10.4	1.2	3.17	2.45	60.78	1.033	4.80	2.22	1.74	Do.
17	2	891	1	11.3	1.3	3.30	2.70	69.09	1.037	Lost.	Lost..	Lost.	Dark green, starchy.
17	2	892	1	11.1	1.0	2.18	1.77	71.34	1.038	4.91	3.27	1.60	Do.
17	2	893	1	11.5	1.4	2.68	2.54	71.34	1.036	4.92	2.78	1.57	Do.
17	2	894	1	10.9	1.2	2.68	2.23	69.96	1.037	Lost.	Lost..	Lost.	Do.
18	2	917	1	11.0	1.0	2.32	1.95	70.74	1.035	4.79	2.40	1.99	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 18	2	918	1	11.4	1.2	2.33	1.92	71.24	1.037	4.63	2.79	1.89	Dark green, starchy.
18	2	919	1	11.4	1.2	3.01	2.49	70.76	1.035	4.62	2.58	1.83	Do.
18	2	920	1	11.0	1.2	3.02	2.46	72.05	1.038	4.57	3.45	1.81	Do.
21	3	1072	1	11.5	1.0	2.26	1.82	72.42	1.037	4.67	3.51	1.32	Thin, watery.
21	3	1073	1	11.5	1.0	2.17	1.77	70.40	1.039	4.72	3.86	1.33	Do.
21	3	1074	1	12.0	1.3	3.14	2.59	69.28	1.036	4.59	3.38	1.46	Do.
21	3	1075	1	10.6	1.0	2.04	1.69	70.09	1.039	4.97	3.69	1.25	Do.
25	4	1205	1	12.1	1.1	2.39	1.93	71.66	1.037	4.95	3.42	1.22	Dark green, starchy.
25	4	1206	1	12.2	1.1	2.22	1.78	71.04	1.041	4.68	4.61	1.28	Do.
25	4	1207	1	12.6	1.1	2.54	2.03	72.13	1.040	4.75	4.40	1.38	Do.
25	4	1208	1	12.4	1.2	2.85	2.32	69.61	1.042	4.86	4.73	1.29	Do.
28	5	1349	1	11.2	.8	1.51	1.17	70.09	1.046	4.88	5.22	1.85	Dark green, watery.
28	5	1350	1	11.2	.9	1.73	1.38	71.36	1.040	4.04	4.54	2.05	Do.
28	5	1351	1	12.6	1.0	2.35	1.92	73.05	1.038	5.03	3.57	1.71	Do.
28	5	1352	1	12.5	1.1	2.44	2.01	69.95	1.037	4.81	4.57	.50	Do.
30	6	1391	1	12.7	1.0	2.44	2.02	68.52	1.050	4.84	5.91	2.20	Dark green, some starch.
30	6	1392	1	12.6	1.1	2.57	2.12	69.12	1.051	4.80	6.35	1.84	Do.
30	6	1393	1	12.5	1.0	2.42	1.99	69.78	1.050	4.88	6.45	1.86	Do.
30	6	1394	1	12.4	1.0	2.34	1.91	68.39	1.048	4.68	5.98	2.08	Do.
30	7	1399	1	12.6	1.1	2.70	2.13	69.28	1.043	4.35	5.39	1.67	Do.
30	7	1400	1	12.0	1.0	2.06	1.63	69.59	1.051	3.57	7.61	2.12	Do.
30	7	1401	1	12.8	1.2	2.67	2.18	69.34	1.047	4.32	5.99	2.01	Do.
30	7	1402	1	12.4	1.0	2.30	1.79	70.55	1.054	4.36	7.57	2.07	Do.
30	8	1407	1	12.7	1.1	2.48	2.01	72.81	1.046	4.58	5.54	1.78	Do.
30	8	1408	1	13.0	1.2	3.35	2.68	68.85	1.050	4.39	6.16	1.45	Do.
30	8	1409	1	12.0	1.1	2.86	2.41	68.77	1.050	4.15	6.82	2.79	Do.
30	8	1410	1	12.4	1.2	3.13	2.46	71.88	1.052	3.98	7.39	2.27	Do.
30	9	1415	1	12.3	1.2	2.84	2.31	70.60	1.053	4.11	7.83	1.93	Do.
30	9	1416	1	12.1	1.1	2.55	2.04	69.74	1.054	4.33	7.27	2.49	Do.
30	9	1417	1	11.5	1.1	2.88	2.29	69.76	1.053	4.51	7.31	1.95	Do.
30	9	1418	1	12.9	1.1	2.86	2.22	68.81	1.055	4.11	8.33	1.92	Do.
Sept. 2	9	1557	1	12.8	1.1	2.61	1.93	70.50	1.047	4.52	6.01	1.12	Do.
2	9	1558	1	11.0	1.3	2.66	2.11	69.17	1.042	4.33	4.91	1.17	Do.
2	9	1559	1	11.0	1.2	2.88	2.39	67.56	1.054	3.95	7.69	1.64	Do.
2	9	1560	1	11.6	1.3	3.26	2.66	69.92	1.054	3.66	7.92	1.75	Do.
6	10	1709	1	12.0	1.2	3.04	2.41	71.23	1.053	3.86	7.95	1.82	Dark green, starchy.
6	10	1710	1	11.2	1.3	3.06	2.36	70.11	1.048	4.10	6.55	1.80	Do.
6	10	1711	1	12.3	1.3	3.01	2.33	70.10	1.049	4.16	6.63	1.98	Do.
6	10	1712	1	11.7	1.2	2.64	2.08	71.00	2.046	4.22	5.78	1.90	Do.
14	11	1957	1	11.3	1.0	1.90?	2.54	69.95	1.059	3.37	9.49	1.49	Light green, some starch.
14	11	1958	1	11.7	1.3	2.55	2.09	72.00	1.055	3.70	7.29	2.37	Do.
14	11	1959	1	11.6	1.3	2.86	2.34	70.95	1.051	4.09	5.86	2.46	Do.
14	11	1960	1	10.5	1.2	2.03	1.59	70.64	1.049	5.52	3.81	2.44	Do.
17	11	2098	1	11.2	1.2	2.11	1.76	85.12?	1.047	4.00	5.18	2.62	Dark green, starchy.
17	11	2099	1	11.4	1.3	3.11	2.60	69.74	1.046	4.30	5.00	2.32	Do.
17	11	2100	1	11.9	1.2	2.42	2.32	59.49	1.061	3.59	8.90	2.73	Do.
17	11	2101	1	11.3	1.2	2.50	2.07	65.85	1.060	3.71	8.68	2.66	Do.
21	12	2213	1	12.2	1.2	2.55	2.12	68.98	1.054	4.07	7.42	1.84	Thin, watery.
21	12	2214	1	14.1	1.4	3.43	2.84	69.00	1.050	4.06	7.27	1.38	Do.
21	12	2215	1	11.6	1.2	2.63	2.30	68.07	1.052	4.33	6.75	1.94	Do.
21	12	2216	1	11.4	1.2	2.41	1.96	67.07	1.060	3.37	9.12	2.42	Do.
23	13	2322	1	12.1	1.2	2.09	1.78	64.80	1.054	3.94	7.30	1.99	Dark green, watery.
23	13	2323	1	12.7	1.2	2.52	2.16	64.28	1.067	2.44	11.38	2.58	Do.
23	13	2324	1	12.7	1.1	2.51	2.12	65.48	1.062	3.59	9.74	1.92	Do.
23	13	2325	1	12.0	1.1	2.75	2.28	61.35	1.067	2.13	11.41	3.10	Do.
25	13	2466	1	10.0	1.0	2.00	1.71	69.23	1.051	4.28	6.28	2.38	Dark green, some starch.
25	13	2467	1	13.4	1.2	3.41	3.03	68.07	1.060	3.09	9.77	2.38	Do.
25	13	2468	1	11.6	1.2	2.69	2.29	62.89	1.068	2.76	11.81	2.52	Do.
25	13	2469	1	12.4	1.2	2.29	1.94	63.50	1.064	3.05	10.00	3.16	Do.
28	14	2626	1	13.0	1.1	2.42	2.04	67.45	1.059	3.41	9.12	2.11	Do.
28	14	2627	1	10.6	1.3	3.19	2.57	65.72	1.062	3.05	10.34	2.05	Do.
28	14	2628	1	11.5	1.1	2.52	2.16	66.22	1.064	2.69	9.94	3.12	Do.
28	14	2629	1	12.6	1.2	2.55	2.16	62.85	1.069	2.51	11.59	2.66	Do.
Oct. 1	*15	2700	1	10.3	1.3	2.64	2.22	62.17	1.071	2.53	12.21	2.97	Green, turbid.
4	15	2750	1	12.9	1.1	2.99	2.49	66.61	1.064	3.27	10.53	2.46	Very light green.
7	15	2818	1	12.0	1.1	2.40	2.51	69.96	1.061	3.62	9.12	2.44	Green.
12	15	2933	1	11.6	1.1	2.90	2.44	69.10	1.068	2.81	11.79	2.39	Light green, starchy.
13	†15	2980	1	12.4	1.1	2.22	1.93	63.12	1.072	2.33	12.45	3.11	Do.

* Topped August 28.

† Topped.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Oct. 15	16	3012	1	11.2	1.1	2.69	2.20	65.80	1.074	1.91	13.45	4.24	Light green, starchy.
16	16	3049	1	12.1	1.0	1.63	1.51	60.58	1.071	2.16	12.20	3.68	Dark green.
19	17	3106	1	9.3	1.0	2.38	1.99	64.64	1.076	1.28	13.96	4.37	Light green.
20	17	3133	1	11.4	1.1	2.70	2.48	63.51	1.075	1.95	13.72	3.69	
22	*16	3168	1	9.0	1.1	2.05	1.83	65.30	1.074	1.80	12.66	4.29	Light green.
25	17	3223	1	12.1	1.2	2.13	1.98	66.30	1.078	2.67	12.78	3.99	Do.
27	*18	3279	1	6.0	1.2	1.25	1.20	66.67	1.058	4.43	7.91	2.12	Do.
29	17	3321	1	11.3	1.1	1.86	1.67	67.37	1.076	3.15	12.24	3.01	Do.
30	18	3348	1	12.4	1.2	2.46	2.27	69.38	1.057	4.11	8.36	2.05	Very light green.
Nov. 3	18	3397	1	12.1	1.2	1.92	1.85	70.95	1.054	4.22	6.42	2.93	Light green.
5	18	3433	1	12.5	1.8	2.07	1.96	70.45	1.065	2.51	12.00	1.92	Do.
10	*18	3490	1	5.5	1.1	1.20	1.11	72.76	1.060	2.38	9.72	3.30	Do.
12	18	3511	1	11.8	1.2	1.95	1.88	68.77	1.068	2.65	10.74	2.95	Do.

* Topped.

TABLE No. 33.—HONDURAS. L. BRANDE, MAYERSVILLE, TEX.

Aug. 2	1	364	1	8.3	1.3	3.37	2.68	66.64	1.031	2.73	3.75	1.87	Light green, starchy.
10	2	595	1	10.3	1.3	3.06	2.45	70.77	1.032	5.05	1.94	1.29	Dark green, watery.
9	3	583	1	9.4	1.3	2.66	2.07	66.88	1.036	4.65	3.72	1.14	Thin, watery.
11	F	666	1	9.5	1.0	2.34	1.78	71.00	1.032	4.87	2.55	1.16	Dark green, watery.
11	F	667	1	9.0	1.1	2.40	1.62	69.93	1.037	5.32	3.74	.88	Do.
11	F	668	1	8.6	1.1	2.36	1.88	67.53	1.035	5.02	2.98	1.23	Do.
11	F	669	1	8.1	1.0	2.43	1.85	67.94	1.032	4.84	2.16	1.53	Do.
14	1	803	1	10.6	1.2	2.97	2.27	60.55	1.033	4.59	1.70	2.13	Do.
14	1	804	1	9.0	1.1	2.01	1.57	68.39	1.037	5.42	2.70	1.33	Do.
14	1	805	1	10.0	1.0	2.28	1.77	70.89	1.035	4.98	2.52	1.53	Do.
14	1	806	1	10.0	1.1	2.72	1.92	74.89	1.036	5.31	2.64	1.22	Do.
18	2	921	1	11.3	1.1	3.35	2.73	71.02	1.036	4.60	3.26	1.60	Do.
18	2	922	1	10.5	1.1	2.68	2.23	69.35	1.039	4.90	3.32	1.74	Do.
18	2	923	1	11.0	1.2	3.08	2.49	70.69	1.039	4.82	3.08	2.11	Do.
18	2	924	1	10.8	1.0	2.96	2.37	69.16	1.041	4.84	3.84	1.84	Do.
23	3	1093	1	12.5	1.1	2.97	2.47	70.45	1.038	4.31	4.16	1.26	Do.
23	3	1094	1	11.9	1.1	2.56	2.09	70.36	1.035	4.57	3.45	1.30	Do.
23	3	1095	1	11.6	1.1	2.98	2.47	66.07	1.041	4.85	3.95	1.72	Do.
23	3	1096	1	11.7	1.1	2.89	2.82	58.20	1.039	4.39	4.34	1.52	Do.
25	4	1217	1	12.5	1.0	2.53	2.02	70.54	1.044	4.66	5.02	1.81	Do.
25	4	1218	1	12.0	1.0	2.27	1.75	70.14	1.041	5.40	3.70	1.61	Do.
25	4	1219	1	13.1	1.2	3.28	2.63	71.26	1.039	4.61	3.90	1.69	Do.
25	4	1220	1	12.6	.9	2.16	1.72	71.42	1.038	4.80	3.97	1.34	Do.
28	5	1357	1	12.6	1.0	2.09	1.68	69.67	1.044	4.92	5.04	1.68	Do.
28	5	1358	1	11.9	1.0	2.04	1.63	68.64	1.047	5.16	5.53	1.54	Do.
28	5	1359	1	11.9	1.2	2.80	2.27	67.50	1.046	5.19	5.40	2.46	Do.
28	5	1360	1	13.1	1.1	2.93	2.38	67.11	1.046	4.86	5.82	1.41	Do.
Sept. 2	6	1569	1	12.8	1.1	2.83	2.57	61.88	1.046	4.47	5.47	1.63	Dark brown, some starch.
2	6	1570	1	12.7	1.0	2.34	2.00	61.00	1.043	5.15	4.14	1.40	Do.
2	6	1571	1	12.0	1.0	2.06	1.71	69.55	1.047	4.88	5.65	1.36	Do.
2	6	1572	1	11.9	1.0	2.07	1.68	67.23	1.050	4.67	5.86	1.80	Do.
6	7	1725	1	13.5	1.2	2.85	2.38	69.59	1.047	4.08	6.33	1.82	Dark green, some starch.
6	7	1726	1	11.5	1.1	2.21	1.82	66.94	1.056	4.53	7.54	2.13	Do.
6	7	1727	1	12.6	1.2	2.53	2.05	66.73	1.057	3.81	8.45	2.07	Do.
6	7	1728	1	12.7	1.1	2.53	2.19	69.50	1.050	4.56	6.64	1.80	Do.
6	8	1729	1	12.5	1.2	2.20	1.91	67.70	1.053	4.04	7.74	1.47	Do.
6	8	1730	1	10.6	1.2	2.23	1.75	55.94	1.058	3.58	7.78	3.57	Do.
6	8	1731	1	12.5	1.2	2.59	2.12	69.60	1.055	4.33	7.02	2.38	Do.
6	8	1732	1	13.2	1.2	2.60	2.17	70.55	1.050	4.38	7.63	1.59	Do.
6	9	1733	1	12.1	1.3	2.97	2.49	69.91	1.047	4.00	6.63	1.55	Do.
6	9	1734	1	11.1	1.2	2.58	2.11	66.49	1.058	3.67	8.70	1.07	Do.
6	9	1735	1	12.9	1.2	2.85	2.60	62.37	1.058	3.69	8.55	2.46	Do.
6	9	1736	1	12.5	1.1	2.72	2.22	67.23	1.052	4.18	7.60	1.53	Do.
14	8	1973	1	13.5	1.2	2.88	2.38	67.83	1.055	3.64	7.80	1.87	Light green, some starch.
14	8	1974	1	10.0	1.1	1.71	1.54	68.71	1.057	4.49	7.58	1.98	Do.
14	8	1975	1	11.6	1.1	2.05	1.65	70.76	1.055	4.44	6.02	2.90	Do.
14	8	1976	1	12.6	1.1	2.33	2.00	67.55	1.060	3.83	7.11	3.92	Do.
21	9	2225	1	12.7	1.1	2.13	1.83	67.02	1.056	3.49	8.92	2.50	Thin, watery.
21	9	2226	1	12.6	1.1	2.05	1.66	68.03	1.062	3.88	10.17	1.49	Do.
21	9	2227	1	13.1	1.1	2.64	2.14	66.01	1.050	3.81	7.35	1.50	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 21	9	2228	1	12.6	1.2	2.33	1.98	65.85	1.056	3.55	8.77	1.64	Thin, watery.
23	10	2338	1	13.1	1.0	2.29	1.94	65.41	1.056	3.54	9.30	1.60	Dark green, some starch.
23	10	2339	1	12.9	1.2	2.94	2.41	62.59	1.058	3.19	9.20	2.21	Do.
23	10	2340	1	12.0	1.2	3.04	2.52	67.59	1.053	3.22	8.67	1.26	Do.
23	10	2341	1	12.2	1.2	2.49	2.15	65.12	1.052	3.03	8.41	1,29	Do.
25	11	2478	1	13.2	1.2	3.30	2.79	61.72	1.055	3.18	9.03	7.27?	Do.
25	11	2479	1	12.3	1.2	3.09	2.73	66.50	1.061	3.20	9.98	6.71?	Do.
25	11	2480	1	13.3	1.2	3.08	2.61	69.94	1.060	3.01	9.98	2.30	Do.
25	11	2481	1	12.6	1.1	2.20	1.78	63.86	1.064	2.76	10.79	2.71	Do.
28	12	2642	1	13.0	1.0	2.79	2.16	65.74	1.060	2.31	10.53	2.02	Do.
28	12	2643	1	13.0	1.2	.....	2.00	66.25	1.049	3.75	6.62	1.83	Do.
28	12	2644	1	10.5	1.2	2.81	2.27	66.79	1.059	2.84	9.48	2.27	Do.
28	12	2645	1	13.3	1.2	3.25	2.70	66.19	1.050	3.61	7.23	1.54	Do.
Oct 1	*14	2704	1	9.4	1.2	2.47	1.98	73.94	1.072	1.61	13.05	2.95	Green.
5	13	2757	1	12.7	1.2	3.26	2.51	71.22	1.061	2.69	11.03	1.97	Very light green.
7	13	2822	1	12.4	1.2	2.86	2.37	72.72	1.059	4.11	8.16	6.20?	Green.
12	13	2937	1	12.0	1.1	2.51	2.11	65.31	1.070	1.43	12.92	4.32	Light green, starchy.
14	13	2984	1	10.4	1.1	3.08	2.59	61.71	1.067	2.00	11.45	3.00	Do.
15	14	3015	1	13.0	1.3	3.27	2.70	66.77	1.068	1.69	11.54	4.28	Dark straw.
16	14	3052	1	12.8	1.1	2.77	2.35	70.19	1.066	3.34	10.57	3.26	Dark green.
19	15	3109	1	12.8	1.1	2.51	2.31	67.59	1.070	1.93	12.54	3.20	Light green.
20	15	3136	1	11.6	1.0	2.33	2.07	52.87	1.074	2.09	5.75?	11.76?	
22	13	3172	1	13.0	1.1	1.87	1.63	66.17	1.063	3.70	11.00	1.48	Dark green.
26	15	3236	1	13.6	1.2	2.16	2.10	63.94	1.071	1.90	12.32	3.44	Light green.
28	†15	3294	1	9.4	1.1	1.83	1.73	63.44	1.071	2.63	12.31	2.99	Dark green.
29	15	3325	1	11.6	1.0	1.78	1.54	66.57	1.073	3.39	11.01	2.10	Brown.
Nov. 2	16	3370	1	11.0	1.0	.....	1.67	74.18	1.068	1.81	12.26	Lost	Light green.
4	16	3405	1	11.5	1.4	1.86	1.76	68.63	1.065	4.14	9.60	2.18	Yellowish green.
5	16	3436	1	12.8	1.3	2.78	2.63	64.10	1.066	3.14	11.50	Lost	Light olive.
10	16	3493	1	10.3	1.1	2.34	2.27	68.51	1.069	2.42	11.83	3.38	Light green.
12	16	3514	1	12.0	1.0	1.66	1.57	63.08	1.066	2.70	10.14	3.10	Do.

*Topped August 28. †Topped.

TABLE No. 37.—SUGAR CANE. C. E. MILLER, EFFINGHAM, ILL.

July 13	1	7	2	5.5	0.9	.....	1.28	53.30	1.029	3.94	1.71	1.09	
16	2	18	2	5.7	.6	1.54	1.10	44.37	1.031	4.36	2.30	1.05	
17	3	27	2	6.6	.8	2.59	1.90	51.61	1.030	3.92	2.35	1.87	
17	4	28	2	6.0	.7	1.72	1.22	47.60	1.035	4.41	3.18	1.58	
20	5	60	2	5.5	.7	1.90	1.31	54.99	1.046	3.73	5.97	1.96	
21	6	84	1	8.0	.8	1.59	1.16	56.25	1.043	3.23	5.24	2.46	
22	7	103	2	6.3	.7	2.35	1.39	59.34	1.055	3.46	2.85?	7.58?	
24	7	148	1	8.1	.7	1.82	1.34	53.18	1.048	3.29	6.96	1.77	
23	8	130	1	8.2	.7	1.45	1.09	63.29	1.048	4.12	5.94	2.35	
26	9	177	1	8.5	.7	1.44	1.18	63.20	1.054	3.41	8.64	1.56	Light green, starchy.
27	9	227	1	6.0	.7	1.20	.79	44.78	1.057	3.61	8.19	3.15	Do.
29	9	256	2	5.8	.7	2.25	1.43	64.05	1.051	2.75	7.36	2.64	Dark green.
30	10	289	2	5.7	.7	2.16	1.35	61.02	1.063	2.68	10.25	2.59	Lighter gr'n, starchy.
31	10	337	1	5.5	.6	.94	.61	63.54	1.059	2.84	8.85	3.37	Do.
Aug. 2	10	361	1	5 6	.8	1.01	.65	61.72	1.054	2.96	8.28	2.56	Light green, starchy.
4	10	432	1	5.3	.9	1.25	.74	65.97	1.050	2.38	7.98	1.97	Do.
6	10	515	1	5.7	.9	1.04	.66	64.67	1.054	2.38	8.67	2.42	Dark green, starchy.
7	11	543	1	5.5	.8	1.09	.61	Lost	1.054	2.67	8.62	2.37	Do.
9	11	577	1	6.7	.7	1.28	.83	65.33	1.058	2.52	10.00	1.61	Watery, starchy.
5	10	473	1	6.0	1.0	1.29	.82	64.79	1.052	2.68	7.22	2.89	Dark green, starchy.
5	10	474	1	6.0	.7	1.01	.64	66.55	1.043	2.77	5.32	2.60	Do.
5	10	475	1	6.5	.9	1.14	.77	66.19	1.051	2.70	7.49	2.61	Do.
5	10	476	1	6.0	.9	.93	.81	45.92	1.063	2.60	9.71	3.17	Do.
13	12	752	1	5.9	.8	1.03	.68	63.19	1.053	1.72	8.67	2.86	Do.
13	12	753	1	6.8	.6	.97	.54	65.10	1.049	2.22	7.45	2.44	Do.
13	12	754	1	7.0	.7	1.11	.82	60.43	1.060	2.43	10.06	2.37	Do.
13	12	755	1	6.0	.9	1.19	.82	66.76	1.050	2.13	7.31	2.80	Do.
17	13	883	1	6.1	.7	1.02	.64	68.62	1.032	2.70	2.86	4.39	Do.
17	13	884	1	6.4	.8	1.13	.75	65.16	1.060	1.09	9.79	3.84	Do.
17	13	885	1	5.4	.6	.92	.52	65.13	1.032	2.74	Lost.	Lost.	Do.
17	13	886	1	5.7	.7	.92	.58	64.88	1.032	3.46	1.29	2.95	Do.
18	13	909	1	8.0	.8	1.51	1.14	62.30	1.074	1.78	13.31	4.51	Do.
18	13	910	1	6.8	.7	1.01	.66	68.05	1.061	1.76	9.80	3.14	Do.
18	13	911	1	6.6	.7	1.14	.83	67.39	1.058	2.42	9.28	2.51	Do.

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 18	13	912	1	5.6	0.7	.98	.57	66.02	1.038	3.17	3.62	2.60	Dark green, starchy.
21	14	1064	1	5.0	.8	1.00	.60	65.80	1.032	2.36	3.34	2.34	Do.
21	14	1065	1	5.6	.7	.97	.57	66.98	1.034	2.85	3.39	2.17	Thin, watery.
21	14	1066	1	5.6	.8	.91	.57	67.44	1.032	3.43	2.27	2.29	Do.
21	14	1067	1	6.0	.7	.91	.59	67.97	1.045	3.58	5.12	2.50	Thin, some starch.
25	15	1197	1	5.8	1.0	1.26	.82	63.30	1.063	2.08	11.85	1.92	Dark green, starchy.
25	15	1198	1	5.9	.8	.87	.53	67.28	1.039	3.79	4.17	2.00	Do.
25	15	1199	1	6.1	.7	.93	.56	70.39	1.040	3.93	3.99	2.18	Do.
25	15	1200	1	6.1	.7	.83	.56	65.09	1.058	3.07	8.75	2.78	Do.
27	16	1327	1	5.6	.8	1.32	.67	65.90	1.037	3.60	3.31	2.44	Do.
27	16	1328	1	6.5	.9	1.11	.86	68.84	1.054	2.73	7.75	2.90	Do.
27	16	1329	1	6.0	.7	.91	.61	66.85	1.050	3.29	6.40	2.64	Do.
27	16	1330	1	6.1	.7	.98	.64	63.67	1.361	2.27	9.64	3.31	Do.
Sept. 2	16	1549	2	5.5	.8	2.08	1.45	67.98	1.051	3.13	6.81	2.57	Dark green, some starch.
2	16	1550	2	6.0	.5	1.63	1.05	65.05	1.047	3.92	4.94	2.55	Do.
2	16	1551	2	5.3	.6	1.71	1.14	64.67	1.048	2.72	6.66	2.21	Do.
2	16	1552	2	6.0	.6	1.70	.97	67.27	1.061	2.39	10.38	2.03	Do.
6	16	1701	2	6.3	.6	1.81	1.13	60.38	1.065	1.78	11.95	2.42	Dark green, starchy.
6	16	1702	2	5.7	.6	1.47	.87	64.64	1.062	2.47	10.82	2.06	Do.
6	16	1703	2	5.7	.7	1.69	.99	60.89	1.050	3.13	7.11	2.24	Do.
6	16	1704	2	6.0	.7	1.74	1.14	67.69	1.044	2.87	6.25	1.94	Do.
10	16	1901	1	5.9	.8	.98	.61	60.86	1.027	3.42	7.96	1.66	Do.
10	16	1902	1	5.6	.8	1.18	.79	63.69	1.057	2.41	8.85	1.79	Do.
10	16	1903	1	6.0	.8	.95	.61	63.66	1.053	3.60	6.96	1.64	Do.
10	16	1904	1	6.0	.7	.84	.55	62.00	1.047	4.23	5.08	2.00	Do.
17	16	2090	1	8.4	.9	1.48	1.09	67.63	1.050	2.53	7.48	2.75	Do.
17	16	2091	2	5.7	.8	2.09	1.32	62.66	1.054	3.18	8.02	2.37	Do.
17	16	2092	1	8.3	.9	1.63	1.05	67.36	1.058	3.45	8.51	2.55	Do.
17	16	2093	2	8.0	.8	2.00	1.34	63.50	1.066	2.86	11.17	2.72	Do.
21	16	2205	1	8.0	.9	1.40	1.12	65.08	1.049	3.59	6.86	1.75	Do.
21	16	2206	1	8.1	.8	1.30	.95	62.32	1.056	3.03	8.84	2.19	Do.
21	16	2207	1	7.8	.8	1.63	1.17	64.02	1.059	2.87	9.70	2.11	Thin, watery.
21	16	2208	1	8.8	.9	1.93	1.29	65.92	1.067	2.43	12.01	2.05	Do.
25	17	2458	2	6.3	.8	2.20	1.61	60.91	1.059	2.36	9.64	2.87	Dark green, starchy.
25	17	2459	2	5.9	.8	2.00	1.38	63.15	1.058	2.36	9.88	3.78	Do.
25	17	2460	2	7.5	.8	2.30	1.49	64.30	1.055	2.84	8.22	2.83	Do.
25	17	2461	2	5.0	.8	1.85	1.16	61.93	1.063	2.41	10.67	2.63	Dark green, some starch.
28	17	2618	1	7.8	.8	1.20	.80	60.55	1.048	3.90	6.08	3.76	Do.
28	17	2619	2	6.0	.8	1.54	.97	55.43	1.039	3.75	2.10	2.49	Do.
28	17	2620	1	8.3	.9	1.70	1.02	64.98	1.055	3.35	8.18	2.07	Do.
28	17	2621	2	6.5	.7	1.91	.99	57.33	1.068	1.28	12.44	2.81	Do.
Oct. 1	*17	2698	1	4.5	.9	.88	.66	64.20	1.053	2.46	8.09	4.03	Dark brown.
4	17	2748	1	7.6	.8	1.05	.77	56.59	1.062	3.04	10.20	2.58	Dirty green.
7	17	2816	2	7.2	.8	1.85	.92	56.19	1.063	2.53	10.09	2.97	Do.
11	17	2908	1	8.6	.9	1.48	.99	68.14	1.067	Lost.	Lost.	Lost.	Brown.
13	17	2978	1	7.9	.9	1.28	.91	66.99	1.073	3.01	11.58	3.36	Very dark olive.
15	17	3010	1	8.4	.8	1.80	1.14	65.38	1.077	Lost.	Lost.	Lost.	Very dark green.
16	18	3047	1	7.8	.7	.81	.57	63.08	1.060	2.84	6.98	5.46	Dirty green.
19	18	3104	1	7.8	.9	1.58	1.09	69.90	1.061	2.53	10.07	3.38	Dark brown.
20	17	3131	1	7.5	.7	1.41	.96	61.62	1.076	1.53	13.72	5.31	
22	17	3166	1	8.3	.9	1.33	.91	64.41	1.070	2.98	11.04	4.02	Dirty green.
25	17	3221	1	8.0	.8	1.21	.94	64.02	1.074	3.20	12.51	2.49	Green.
27	17	3277	1	8.4	.8	1.39	1.01	59.17	1.079	2.21	14.52	3.57	Light green.
29	17	3316	1	8.4	.8	1.48	.99	62.83	1.075	2.69	12.36	Lost.	Dark brown.
30	18	3346	1	8.4	.8	1.53	1.20	66.91	1.071	2.10	9.65	Lost.	Light green.
Nov. 3	18	3395	2	5.7	.6	.92	.77	59.89	1.064	1.83	10.33	4.15	Olive.
5	18	3431	1	8.0	.8	1.29	.95	54.17	1.067	2.52	11.87	1.54	Dirty green.
10	18	3488	1	8.5	1.0	1.54	1.16	70.32	1.061	2.64	10.48	2.83	Light olive.
12	18	3509	2	8.0	.6	1.10	.93	62.17	1.060	3.37	8.60	4.87	Brownish olive.
15	18	3538	1	8.0	.9	1.41	1.14	68.86	1.066	1.90	11.92	2.25	Dark green.

*Topped August 28.

TABLE No. 38.—HYBRID. J. C. MOORE, SAN DIEGO, CAL.

July 15	1	11	2	7.5	0.9	.....	2.53	44.68	1.017	2.70	.83	.53	
19	2	47	1	9.5	.8	1.97	1.51	52.88	1.724	3.85	.64	1.61	
20	3	66	1	9.1	.9	2.15	1.56	53.22	1.023	1.89	1.33	2.28	
22	4	104	1	7.0	.8	2.04	1.31	65.93	1.022	1.87	.....	.....	

ANALYSES OF JUICES FROM SORGHUM—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 24	4	149	1	8.4	1.0	2.47	1.80	58.88	1.022	2.60	.82	2.35	Dark green.
22	5	105	1	8.7	.8	2.22	1.50	61.96	1.024	3.27	2.35	1.02	
24	5	150	1	9.5	....	2.07	1.49	59.82	1.027	2.10	2.40	2.71	Light green, little starch.
22	6	106	1	8.5	.7	2.17	1.39	47.33	1.025	3.02	4.02	.....	
24	6	151	1	8.5	.8	1.98	1.37	65.60	1.025	1.59	2.83	2.70	Dark green, starchy.
23	7	133	1	8.6	.6	1.25	.85	63.43	1.031	2.21	3.60	1.95	Light green.
26	8	178	1	7.5	.9	2.22	1.42	62.48	1.027	1.10	3.87	1.85	Dark green.
27	9	228	1	9.3	.8	2.07	1.55	73 63	1.032	2.91	2.88	2.54	Do.
29	9	257	1	9.3	.7	1.68	1.23	69.30	1.026	2.72	1.44	2.18	Do.
30	9	292	1	9.9	.8	2.16	1.57	66.95	1.029	1.77	2.96	2.36	Lighter green, starchy.
31	9	338	1	9.0	.9	1 64	1.49	71.05	1.030	1.85	3.15	2.57	Do.
Aug. 2	9	362	1	9.7	.7	1.54	1.10	68.92	1.038	2.78	4.43	2.33	Light green, starchy.
3	9	394	1	9.5	.5	1.80	1.29	52.65	1.036	1.48	5.63	1.53	Do.
4	10	435	1	8.5	.8	1.79	1.14	72.69	1.020	1.36	1.38	1.97	Do.
6	9	518	1	8.5	.4	1.95	1.30	71.69	1.016	1.14	.17	2.48	Thin; watery.
9	12	581	1	8.8	.7	1.66	.83?	88.89?	1.018	1.18	7.93	2.35	Do.
10	11	594	1	8.5	.9	2.24	1.49	69.72	1.022	2.39	.56	2.58	Dark green; watery.
7	10	546	1	9.5	.8	1.73	1.19	67.22	1.029	1.58	3.23	2.33	Light green, watery.
7	10	547	1	8.8	.8	1.89	1.29	69.57	1.039	2.11	4.79	2.68	Do.
7	10	548	1	9.5	.8	1.64	1.19	69.63	1.037	1.75	4.43	2.69	Do.
7	10	549	1	8.5	.8	1.44	.96	68.19	1.039	1.61	5.10	2.72	Darker green, watery.
10	12	602	1	9.7	.8	2.26	1.54	69.02	1.020	1.22	1.14	2.40	Dark green, watery.
10	12	603	1	8.6	.9	2.90	1.19	71.40	1.027	1.52	2.14	2.82	Do.
10	12	604	1	8.5	1.0	2.09	1.47	70.46	1.021	1.47	1.40	2.27	Do.
10	12	605	1	8.4	.9	1.71	1.21	70.91	1.025	1.42	1.31	2.88	Do.
14	12	795	1	9.0	.8	1.82	1.17	70.19	1.018	1.17	.14	2.86	Do.
14	12	796	1	9.1	.9	1.95	1.34	68.70	1.041	1.54	4.51	3.89	Do.
14	12	797	1	9.0	.9	1.95	1.16	68.06	1.027	1.61	2.26	2.56	Do.
14	12	798	1	8.9	1.0	1.94	1.31	60.06	1.043	1.48	5.79	3.13	Do.
17	13	899	1	8.5	.9	2.31	1.40	72.06	1.019	1.30	.64	2.33	Dark green, starchy.
17	13	900	1	8.5	.9	1.64	1.12	68.00	1.022	1.08	.99	2.92	Do.
17	13	901	1	9.2	.9	1.67	1.22	69.96	1.029	1.25	2.15	3.06	Do.
17	13	902	1	8.0	.8	1.38	.97	68.82	1.037	2.01	3.70	2.92	Do.
21	14	1080	1	10.0	.9	1.95	1.83	54.13	1.027	1.64	2.89	2.13	Thin, watery.
21	14	1081	1	9.4	.9	1.93	1.37	69.82	1.041	1.67	6.01	2.50	Do.
21	14	1082	1	8.5	.8	1.69	1.18	73.69	1.034	3.15	3.30	2.08	Do.
21	14	1083	1	8.6	.8	1.64	1.18	69.50	1.036	1.60	4.42	2.47	Do.
Sept. 6	16	1717	1	9.1	1.0	1.98	1.37	69.46	1.027	2.58	1.75	2.29	Dark green, starchy.
6	16	1718	1	10.0	1.0	1.76	1.37	68.16	1.031	1.82	3.18	2.32	Do.
6	16	1719	1	9.4	.9	1.58	1.11	67.32	1.054	.97	9.44	2.40	Do.
6	16	1720	1	8.7	.9	1.67	1.15	65.31	1,040	.93	5.10	3.54	Do.
14	16	1965	1	9.8	1.1	2.03	1.37	81.08?	1.038	1.44	4.87	2.36	Light green, some starch.
14	16	1966	1	9.1	1.0	1.86	1.33	69.20	1.052	1.81	7.74	2.62	Do.
14	16	1967	1	8.1	1.0	1.32	.87	65.59	1.038	.63	5.06	2.84	Do.
14	16	1968	1	8.2	1.0	1.70	1.16	72.00	1.050	1.13	7.05	3.15	Do.
23	17	2330	1	9.1	.9	2.46	1.22	66.06	1.039	.69	5.52	3.13	Dark green, some starch.
23	17	2331	1	8.4	.8	1.37	.97	64.25	1.052	1.87	7.44	3.19	Do.
23	17	2332	1	8.5	.9	1.97	1.28	70.69	1.051	1.45	7.70	2.84	Do.
23	17	2333	1	9.0	.8	1.52	1.02	66.81	1.047	2.18	6.27	2.49	Do.
28	17	2634	1	9.3	.9	1.87	1.21	65.57	1.040	2.51	5.72	1.71	Do.
28	17	2635	1	8.6	1.0	2.20	1.35	66.82	1.046	1.97	5.57	3.12	Do.
28	17	2636	1	9.0	1.0	2.08	Lost.	Lost.	1.042	1.15	5.69	2.61	Do.
28	17	2637	1	8.4	1.0	1.93	1.16	65.27	1.051	.99	8.42	2.44	Do.
Oct. 1	17*	2702	1	6.6	.9	.98	.73	68.86	1.048	.54	7.13	4.31	Green.
5	17	2755	1	6.7	.8	1.21	.77	68.67	1.034	1.23	4.09	2.80	Dark olive.
7	17	2820	1	9.3	.9	2.07	1.26	69.05	1.055	2.87	7.74	2.75	Green.
12	17	2935	1	8.4	1.0	1.63	1.10	69.32	1.041	3.18	4.03	2.78	Light green, starchy.
13	17	2982	1	8.1	.9	2.08	1.06	66.87	1.054	.78	8.92	3.15	Do.
22	....	3170	1	10.4	1.0	1.54	1.12	63.92	1.056	1.66	7.67	5.02	Dark green.
25	....	3225	1	.....	.....	.....	.97	64.03	Lost.	.98	6.77	Lost.	
27	....	3281	1	9.5	1.1	1.39	1.12	Lost.	1.058	4.38?	10.09	.....	Light green.
29	....	3323	1	8.6	.9*	1.34	.96	69.44	1.048	1.58	6.32	2.93	Light brown.
30	....	3350	1	9.5	1.0	1.38	1.24	65.84	1.049	2.74	6.27	9.29?	Dirty green.

* Topped August 28.

JUICES FROM CORNSTALKS.

Although a considerable number of analyses of the juice obtained from cornstalks has been made, we are, as yet, not willing to positively assert that sugar can be made at a profit from the juice of cornstalks. Still, the results of the analyses, taken with those from practical experiments on a small scale, make the outlook appear very hopeful.

The following are some practical results obtained this year:

The stalks from four varieties of field corn were used, viz: Improved Prolific, White Dent, Lindsay's Horse-Tooth, Eight-rowed White Dent.

One hundred and twenty-one pounds of stripped stalks yielded 62 pounds of juice, equal to 51.24 per cent. of juice. This juice contained 8.55 per cent. of crystallizable sugar, as shown by the polariscope.

Fifty-three pounds of this juice yielded 8.5 pounds of sirup, equal to 16 per cent. This sirup contained sucrose 50.44 per cent., glucose 11.50 per cent., or 94.64 per cent. of the sucrose originally present in the juice was recovered in the sirup. There were actually separated from this sirup 4.5 pounds of sugar, equal to 53.00 per cent. of the sirup.

A similar experiment conducted in 1879 furnished a sirup from which 39.3 per cent. of good sugar was actually separated.

While the yield of sugar per acre is considerably less than from sorghum, it must be borne in mind that good mature corn can first be produced and sold; if, then, the sugar obtained from the otherwise almost worthless stalks can be made at even a small profit, it will equal or exceed in value the sum received for the corn.

It is hoped that practical experiments on a large scale may be conducted during the coming summer. The results then obtained will do much to settle this question as to the cost of producing sugar from cornstalks. If successful, a very great saving can be annually made in this country.

ANALYSES OF JUICES FROM CORNSTALKS.

TABLE No. 39.—RICE OR EGYPTIAN CORN. ROOT & HOLLINGSWORTH, KINSLEY COURT-HOUSE, KANS.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juices expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 26	1	184	3	6.4	0.6	1.84	1.07	44.75	1.031	1.18	3.28	2.80	Light green, starchy.
26	2	185	2	6.7	.6	1.49	.96	45.52	1.029	.88	3.03	2.89	Dark green.
26	3	192	2	6.8	.6	1.53	.91	43.98	1.026	.92	2.97	2.64	Do.
27	4	231	1	7.0	.8	1.19	.79	48.92	1.038	1.26	5.03	3.20	Light green, starchy.
30	4	300	1	7.4	.6	1.18	.63	40.04	1.046	1.11	5.88	4.00	Dark green, starchy.
31	5	342	1	7.4	.7	1.11	.75	48.08	1.052	1.09	6.95	4.22	Light green.
Aug. 2	5	370	1	7.8	.8	.93	.57	46.18	1.048	4.32	4.03	4.10	Do.
7	6	553	3	6.5	.6	2.09	1.21	48.72	2.047	.76	6.42	4.23	Dark green, watery starchy.
7	7	554	2	6.7	.8	1.88	1.16	46.67	1.056	1.12	8.26	4.11	Do.
9	7	589	1	6.9	.8	2.34	1.47	53.67	1.046	.96	6.61	3.71	Dark green, starchy.
11	8	678	2	7.5	.7	2.23	1.29	50.76	1.051	1.13	7.40	3.84	Do.
19	8	973	3	7.6	.7	2.39	1.44	45.50	1.057	.96	9.54	3.69	Do.
19	8	974	3	6.0	.6	1.94	1.13	40.85	1.063	.65	9.93	4.41	Do.
19	8	975	3	5.6	.6	2.11	1.17	46.99	1.061	1.50	9.39	4.05	Do.
19	9	976	3	7.0	.7	3.01	1.63	47.74	1.054	.68	8.41	4.48	Do.
19	9	977	3	7.5	.7	2.63	1.40	46.45	1.054	.61	8.66	2.97?	Do.
19	9	978	3	6.0	.7	2.93	1.44	48.55	1.052	.92	7.28	4.78	Do.
23	9	1129	2	7.5	.7	2.02	1.04	53.39	1.041	.71	5.91	3.37	Do.
23	9	1130	2	7.5	.8	2.57	1.34	46.95	1.053	.64	7.67	4.61	Do.

ANALYSES OF JUICES FROM CORNSTALKS—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Aug. 26	9	1253	2	7.5	0.7	2.05	1.01	47.29	1.049	0.77	7.53	3.14	Dark green, starchy.
26	9	1254	1	8.0	.8	1.65	.87	46.21	1.049	.61	7.44	3.44	Do.
26	9	1255	1	7.0	.8	1.52	.69	52.23	1.047	.84	6.97	3.03	Do.
28	10	1379	2	8.0	.8	2.49	1.17	46.44	1.038	.60	5.65	3.34	Do.
28	10	1380	2	8.5	.7	2.23	1.12	42.01	1.045	.68	5.94	4.19	Do.
28	10	1381	2	6.6	.7	1.87	.86	31.24	1.032	.78	2.82	3.81	Do.
Sept. 3	10	1603	2	7.1	.7	1.98	.97	54.77	1.032	.55	4.62	2.82	Do.
3	10	1604	2	7.3	.7	2.02	.88	44.03	1.040	.64	5.47	3.31	Do.
3	10	1605	3	5.5	.6	2.03	.79	43.33	1.034	.60	3.35	3.94	Do.
8	11	1808	2	7.6	.6	1.46	.78	29.18	1.041	.39	5.54	3.27	Dark green, some starch.
8	11	1809	2	7.0	.6	1.40	.81	25.40	1.040	.43	4.41	3.48	Do.
8	11	1810	3	5.6	.7	2.02	.57	64.20	1.035	.34	3.35	4.18	Do.
8	12	1815	2	8.6	.8	2.44	1.29	47.78	1.056	.47	10.05	.....	Do.
8	12	1816	2	7.6	.7	2.02	.97	42.40	1.032	.45	3.42	4.41	Do.
8	12	1817	2	7.0	.7	2.37	1.11	44.38	1.036	.46	3.62	.....	Do.
9	11	1896	2	7.9	.9	2.55	1.36	49.75	1.051	.42	7.90	3.48	Dark green, starchy.
9	11	1897	2	8.0	.7	1.79	.86	44.08	1.054	.38	7.59	1.19	Do.
9	11	1898	2	6.9	.7	1.85	.84	44.21	1.037	.40	3.24	3.30	Do.
15	14	2011	2	7.7	.8	2.00	1.03	49.14	1.050	.54	7.18	3.83	Do.
15	14	2012	2	7.6	.8	1.81	1.00	40.00	1.059	.56	9.18	3.90	Do.
15	14	2013	2	5.7	.7	1.87	.98	42.56	1.048	.65	5.83	4.21	Do.
18	14	2131	3	8.7	.7	2.79	1.66	37.74	1.062	.35	9.50	4.18	Do.
18	14	2132	3	8.0	.7	2.71	1.51	38.65	1.062	.68	9.44	1.84	Do.
18	14	2133	2	6.9	.7	1.87	.94	41.45	1.051	.42	7.96	2.32	Do.
21	1	2249	19	4.0	.4	2.95	1.07	51.13	1.031	1.58	3.11	2.73	Dark green, some starch.
22	15	2297	2	8.6	.7	1.21	.69	32.63	1.066	.72	11.29	3.47	Do.
22	15	2298	2	8.0	.8	1.83	.99	42.92	1.067	.61	11.66	3.33	Do.
22	15	2299	2	7.4	.8	1.50	1.09	43.24	1.051	.67	8.11	2.97	Do.
27	16	2527	4	7.6	.8	4.17	1.78	66.66	1.068	.34	10.84	4.59	Dark green, starchy.
27	16	2528	4	8.1	.7	3.08	1.76	69.82	1.067	.60	10.58	4.47	Do.
27	16	2529	5	6.6	.8	3.99	1.78	79.82?	1.063	.47	11.59	2.71	Do.
Oct. 6	16	2782	3	7.6	.8	2.00	1.17	63.65	1.071	.34	12.76	4.28	Do.
8	16	2870	2	7.4	.8	1.61	1.12	46.83	1.056	.45	9.13	3.85	Green.
16	....	3067	5	5.6	.5	1.91	1.09	48.49	1.045	1.09	11.92	.....	Dark green.
26	....	3251	4	5.0	.7	1.60	1.51	35.62	1.079	.96	13.53	3.67	Do.

TABLE No. 40.—DOURA CORN. ———, S. C.

Aug. 21	E	1084	1	9.5	1.1	2.79	2.36	52.00	1.037	2.23	4.98	2.34	Thin, watery.
26	E	1288	1	9.1	1.2	2.66	1.83	51.80	1.041	2.82	4.60	2.42	Dark green, starchy.
Sept. 6	1	1741	1	7.7	.6	.87	.58	46.04	1.043	2.37	5.37	2.95	Dark green, some starch.
6	2	1742	2	7.7	.5	1.23	.78	44.19	1.043	2.00	5.45	3.00	Do.
7	3	1783	1	9.3	1.1	2.26	1.46	54.28	1.047	2.42	6.20	2.61	Dark green, starchy.
7	4	1784	1	10.6	1.1	2.41	1.86	50.41	1.042	2.62	4.58	2.92	Do.
7	5	1795	1	11.5	1.1	2.70	2.05	49.46	1.042	2.11	5.86	2.35	Do.
15	1	2022	2	7.4	.8	1.45	.92	44.84	1.052	2.16	6.39	3.33	Do.
23	8	2354	1	10.0	1.1	3.19	2.07	46.75	1.050	2.46	7.16	2.43	Dark green, some starch.
Oct. 16	...	3065	1	9.3	.7	1.13	.77	38.22	1.078	1.75	12.44	4.92	Dark green.
22	...	3185	1	8.8	.9	1.94	1.54	44.16	1.077	1.53	12.77	4.08	Olive.
26	....	3249	1	8.6	1.0	1.72	1.43	48.31	1.076	2.64	13.05	2.62	Dark green.

TABLE No. 41.—STOWELL'S EVERGREEN. W. R. SHELMIRE, CHESTER, PA.

Aug. 14	1	778	2	5.6	0.8	1.65	.70	70.31	1.048	3.13	7.39	1.88	Dark green.
14	2	779	2	5.9	.8	1.93	1.15	52.29	1.065	1.84	10.57	3.69	Do.
21	3	1044	2	7.0	1.1	2.82	1.91	54.89	1.067	1.32	12.07	3.39	Dark green, starchy.
28	4	1387	2	6.0	.9	1.58	1.16	58.16	1.059	1.39	9.96	3.62	Do.
Sept. 4	5	1664	1	6.0	.9	1.27	.48	49.22	1.061	.87	10.70	3.89	Do.
8	Y Y	1823	3	6.0	1.0	2.94	2.13	58.76	1.040	1.60	6.20	2.06	Dark green, some starch.
10		1910	3	7.0	1.0	2.20	1.70	58.52	1.044	1.63	6.77	1.79	Dark green, starchy.

ANALYSES OF JUICES FROM CORNSTALKS—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 11	4	1922	3	5.6	1.0	1.50	1.16	49.34	1.066	1.25	10.71	3.99	Dark green, some starch.
11	6	1930	1	7.0	.9	1.33	.55?	92.74?	1.072	.93	12.01	5.22	Do.
13	Y	1949	3	5.3	1.0	2.27	2.05	58.04	1.063	1.06	11.05	2.47	Dark green, starchy.
18	7	2111	4	6.0	1.0	3.30	2.78	54.03	1.066	.88	11.26	2.59	Do.
18	5	2112	4	5.6	.8	1.70	2.42	31.15	1.065	1.20	10.81	4.37	Do.
18	Z	2119	2	6.0	1.0	1.63	1.28	60.30	1.060	1.14	9.51	3.97	Do.

TABLE No. 42.—EGYPTIAN SUGAR. W. R. SHELMIRE, CHESTER, PA.

July 28	1	247	2	7.4	1.0	4.29	2.35	59.47	1.042	2.82	5.24	2.35	Very dark green.
31	1	328	2	7.7	.9	3.79	2.61	67.42	1.035	1.87	4.81	2.06	Dark green.
Aug. 7	2	555	2	7.0	1.0	3.50	2.40	58.33	1.054	2.17	8.98	2.61	Dark green, watery starchy.
14	3	771	2	8.0	1.1	1.98	2.19	58.59	1.059	1.53	10.04	2.82	Brown, starchy.
21	4	1040	2	8.0	1.0	3.01	2.27	47.96	1.064	1.28	11.15	3.17	Dark green, starchy.
28	5	1383	1	8.2	1.1	1.46	1.27	54.49	1.065	1.54	10.65	3.87	Do.
Sept. 4	6	1660	1	7.7	1.0	1.14	.98	57.54	1.058	1.37	10.82	2.74	Do.
8	Y	1819	1	7.5	1.1	2.60	2.09	62.87	1.053	1.33	8.98	2.42	Dark green, some starch.
10	Y	1906	1	7.0	1.0	1.21	.92	61.19	1.057	1.18	8.85	2.78	Dark green, starchy.
11	7	1918	1	6.0	1.0	.51	.43	46.70	1.053	1.78	5.58?	5.45?	Dark green, some starchy.
11	Y	1928	2	7.5	1.0	1.83	1.43	.....	1.066	.79	11.00	3.31	Do.
13	Y	1939	2	7.0	.9	1.14	.94	62.12	1.044	2.21	6.64	1.73	Do.
13	Y	1940	1	8.0	1.0	1.38	.92	58.33	1.071	1.57	12.14	3.04	Do.
18	Z	2115	3	7.8	1.3	2.97	2.79	61.57	1.058	1.28	9.11	1.80	Dark green, starchy.
23	Y	2356	1	6.0	1.0	.75	.66	59.00	1.052	2.66	9.03	1.37	Dark green, some starch.
23	Y	2357	1	7.3	1.1	1.23	1.07	56.97	1.061	1.56	10.92	2.46	Do.
23	Y	2358	1	8.0	1.1	1.67	1.50	64.08	1.057	2.83	8.24	2.55	Do.
23	Y	2359	1	8.0	1.2	1.08	1.05	55.88	1.061	2.33	8.64	3.50	Do.
23	Y	2360	1	7.6	1.1	.68	.66	55.63	1.068	1.38	11.03	4.16	Do.
28	....	2650	1	7.0	1.0	.88	.76	47.55	1.059	2.66	8.13	3.42	Do.
28	....	2651	1	7.0	1.0	.77	.65	48.47	1.048	1.26	6.57	2.90	Do.
28	....	2652	1	8.6	1.0	.94	.84	56.51	1.057	1.45	8.84	3.53	Do.
Oct. 23	....	3195	2	7.7	1.1	1.67	1.23	40.14	1.075	1.87	9.22	6.16	Dark green.

TABLE No. 43.—LINDSAY'S HORSE-TOOTH. A. H. LINDSAY, PORTSMOUTH, VA.

Aug. 14	1	769	2	8.3	1.0	5.48	3.25	63.45	1.045	2.37	6.72	2.20	Dark green, starchy.
14	2	770	2	9.8	1.3	6.72	4.85	63.80	1.049	1.36	8.48	2.55	Do.
21	3	1039	2	9.6	1.2	6.20	4.15	51.91	1.065	1.61	11.00	3.54	Do.
28	4	1382	1	8.3	1.2	2.74	2.13	54.12	1.060	1.04	9.61	4.11	Do.
Sept. 4	5	1659	1	9.5	1.2	2.47	1.85	55.11	1.079	.89	15.16	3.27	Do.
8	Y	1818	1	10.0	1.3	3.94	3.05	60.13	1.056	1.37	9.27	1.95	Dark green, some starch.
10	Y	1905	1	8.0	1.1	2.14	1.71	61.85	1.043	1.44	6.85	1.82	Dack green, starchy.
11	6	1917	1	10.3	1.5	3.15	2.35	54.95	1.060	.94	9.97	3.56	Dark green, some starch.
11	Y	1925	1	8.0	1.2	1.86	1.65	64.67	1.058	Lost.	Lost.	Lost.	Do.
11	Y	1926	1	8.5	1.0	2.05	1.62	50.61	1.054	1.43	8.49	2.84	Do.
11	Y	1927	2	8.6	1.0	2.82	1.83	63.07	1.026	.41	2.56	3.22	Do.
13	Y	1937	1	8.2	1.3	2.68	1.93	60.32	1.061	1.12	10.41	3.32	Do.
13	Y	1938	1	9.0	1.3	2.25	1.56	65.97	1.031	.72	3.58	2.78	Do.
18	7	2107	1	11.0	1.3	2.73	2.50	57.35	1.065	1.12	8.97	5.45	Dark green, starchy.
20	Z	2200	2	8.5	1.2	3.70	2.88	58.17	1.057	.85	9.64	3.32	Do.
21	Y	2237	1	7.5	1.3	2.20	1.61	58.42	1.062	1.32	10.67	3.36	Thin, watery.
21	Y	2238	1	10.0	1.2	2.35	1.76	51.87	1.070	1.04	11.89	4.03	Do.
21	Y	2239	1	9.0	1.3	2.59	2.13	63.29	1.033	1.37	4.76	1.95	Do.
21	Y	2240	1	9.3	1.2	1.93	1.67	65.26	1.025	.76	3.31	2.17	Do.
21	Y	2241	1	9.0	1.1	1.78	1.44	54.81	1.072	.77	13.68	3.11	Do.
21	Y	2242	1	8.3	1.2	1.59	1.08	63.26	1.031	.36	4.77	2.39	Do.
21	Y	2243	1	9.6	1.2	2.25	1.91	59.96	1.058	1.55	10.07	2.65	Do.

ANALYSES OF JUICES FROM CORNSTALKS—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 21	Y	2244	1	7.5	1.2	1.85	1.66	64.10	1.047	1.61	7.09	3.14	Dark green, some starch.
21	Y	2245	1	8.0	1.3	2.37	1.96	58.20	1.073	1.06	13.16	3.68	Do.
21	Y	2246	1	7.5	1.2	1.58	1.34	55.42	1.053	1.26	9.97	2.10	Do.
21	Y	2247	1	8.0	1.2	1.66	1.37	62.10	1.042	.74	6.56	2.92	Do.
21	Y	2248	1	10.3	1.1	1.71	1.38	46.01	1.037	.52	5.00	3.35	Do.
25	8	2516	1	9.0	1.3	3.63	2.71	56.23	1.065	.59	11.88	4.29	Do.
Oct. 6	....	2795	1	8.5	1.1	1.62	1.38	63.69	1.065	.70	11.42	3.75	Dark green, starchy.
6	....	2796	1	9.5	1.3	2.15	2.00	66.95	1.064	1.05	11.62	3.22	Do.
6	....	2797	1	6.6	.8	.86?	1.34	67.75	1.039	.42	6.16	3.00	Do.
6	....	2798	1	8.3	1.2	2.21	1.70	65.11	1.062	.55	11.21	3.73	Do.
6	....	2799	1	9.1	1.3	2.84	2.16	65.95	1.063	.83	11.43	3.51	Light green.
6	....	2800	1	8.6	1.0	1.71	1.35	59.99	1.062	.64	11.25	3.88	Do.
6	....	2801	1	9.1	1.1	1.67	1.19	52.03	1.064	.65	11.33	4.01	Do.
6	....	2802	1	10.0	1.2	1.75	1.47	61.48	1.065	.75	11.24	4.12	Do.
6	....	2803	1	9.3	1.2	1.98	1.64	66.88	1.041	1.18	6.80	2.25	Do.
6	....	2804	1	9.7	1.1	1.50	1.08	78.58?	1.037	1.18	4.56	3.13	Do.
16	9	3068	2	8.0	1.2	3.43	3.00	65.05	1.068	.73	14.65	3.63	Dark green.
23	....	3194	2	7.5	1.2	3.23	2.51	61.21	1.059	.86	8.94	4.74	Do.
23	10	3202	2	9.1	1.3	4.11	3.53	56.45	1.074	.77	12.10	5.28	Do.

TABLE No. 44.—WHITE FLAT DENT, 8-ROWED. WASHINGTON MARKET.

Aug. 14	1	774	2	9.8	1.1	3.74	3.18	63.26	1.040	1.23	6.12	2.62	Brown, starchy.
14	2	775	2	10.0	1.2	5.14	3.47	63.33	1.049	1.12	7.63	3.26	Dark green.
21	3	1042	2	8.5	1.2	4.83	3.62	59.14	1.050	.85	10.93	.60	Dark green, starchy.
28	4	1385	1	9.6	1.2	2.68	2.17	50.88	1.064	.86	10.93	4.14	Do.
Sept. 4	5	1662	1	9.0	1.3	2.46	2.03	61.97	1.055	1.30	9.44	2.96	Do.
8	Y	1821	1	9.6	1.2	2.10	1.71	64.05	1.034	1.05	4.88	2.48	Dark green, some starch.
10	Y	1908	1	8.5	1.1	2.23	1.40	63.42	1.047	.98	7.83	2.22	Dark green, starchy.
11	6	1920	1	9.4	1.3	2.01	1.73	54.95	1.067	.70	11.40	3.97	Dark green, some starch.
11	Y	1933	1	9.5	1.0	1.43	1.02	47.52	1.021	.34	1.77	7.10?	Do.
11	Y	1934	1	9.0	1.3	1.94	1.46	60.30	1.041	2.03	5.57	4.37	Do.
13	Y	1944	1	9.8	1.1	1.86	1.44	61.93	1.032	1.51	3.16	2.31	Do.
13	Y	1945	1	9.3	1.2	2.16	1.62	64.35	1.062	.85	11.72	2.31	Dark green, starchy.
13	Y	1946	1	10.8	1.0	2.06	1.58	64.03	1.043	2.16	5.85	2.05	Do.
18	5	2109	1	9.0	1.2	1.71	1.50	54.55	1.065	1.12	10.71	3.19	Do.
18	Z	2117	2	9.2	1.3	4.88	3.89	63.19	1.057	.87	10.02	2.73	Do.
25	6	2514	1	5.0	1.0	1.10	.94	58.11	1.063	.76	10.00	5.42	Dark green, some starch.
Oct. 16	9	3070	1	9.3	1.3	1.94	1.79	64.29	1.068	.42	12.28	4.29	Dark green.
23	....	3197	1	8.0	1.4	1.72	1.61	66.03	1.054	.42	7.60	5.21	Do.
23	10	3201	3	9.0	1.1	2.57	2.16	42.65	1.066	1.04	9.37	5.40	

TABLE No. 45.—IMPROVED PROLIFIC. JAMES M. THORBURN & CO., NEW YORK CITY.

Aug. 14	1	776	2	8.3	1.1	4.07	2.62	44.75	1.042	2.43	5.65	2.38	Dark green.
14	2	777	2	9.3	1.3	6.26	4.66	64.00	1.042	1.22	6.13	2.82	Do.
21	3	1043	2	9.2	1.2	5.87	4.19	57.29	1.061	.97	10.92	3.10	Dark green, starchy.
28	4	1386	1	8.3	1.0	1.58	1.31	56.70	1.062	.76	10.42	4.26	Do.
Sept. 4	5	1663	1	9.7	1.2	2.14	1.75	58.74	1.067	.80	11.98	3.76	Do.
8	Y	1822	1	10.6	1.3	2.35	1.82	59.12	1.027	.90	2.50	3.08	Dark green, some starch.
10	Y	1909	1	9.4	1.4	2.51	1.96	61.99	1.059	1.36	12.02	1.16	Dark green, starchy.
11	6	1921	1	10.5	1.7	5.16	4.07	67.35	1.061	1.04	9.99	4.10	Dark green, some starch.
11	Y	1935	1	8.0	1.0	1.32	1.07	61.52	1.035	.42	3.93	2.41	Do.
11	Y	1936	1	10.0	1.0	1.33	.95	45.96	1.023	.61	1.72	2.26	Do.
13	Y	1947	1	9.8	1.1	1.58	1.05	63.05	1.026	1.02	2.71	2.26	Dark green, starchy.
13	Y	1948	1	7.4	1.2	1.43	1.09	64.57	1.031	2.71	1.62	1.94	Do.
18	7	2110	1	9.5	1.2	1.77	1.53	51.93	1.055	.55	9.85	3.34	Do.
18	Z	2118	3	8.0	1.2	3.37	2.56	54.97	1.022	.09	1.23	2.25	Thin, watery.

ANALYSES OF JUICES FROM CORNSTALKS—Continued.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
Sept. 25	6	2512	1	8.8	1.2	1.76	1.61	44.05	1.061	1.35	9.57	4.11	Dark green, some starch.
25	8	2513	1	7.8	.9	.81	.74	52.23	1.060	.65	9.60	4.28	Do.
Oct. 16	9	3071	1	9.0	1.3	1.78	1.49	57.37	1.065	1.31	9.85	4.85	Dark green.
23	....	3198	1	8.0	1.2	1.38	.99	54.22	1.054	3.02	6.98	3.38	Do.
23	10	3200	3	8.5	1.2	3.59	3.15	53.98	1.071	1.21	11.23	5.12	Do.

TABLE No. 46.—WHITE DENT. THOMAS L. JONES, WARRENTON, N. C.

Aug. 14	1	772	2	9.0	1.1	4.74	3.26	61.92	1.046	2.50	7.06	1.96	Brown, starchy.
14	2	773	2	9.6	1.5	5.48	3.90	60.20	1.058	1.51	9.57	3.19	Do.
21	3	1041	2	10.0	1.2	7.71	5.32	58.69	1.062	1.87	10.78	2.79	Brownish green.
28	4	1384	1	11.3	1.1	2.63	2.07	55.53	1.062	1.01	10.53	3.71	Dark green, starchy.
Sept. 4	5	1661	1	8.7	1.1	1.92	1.50	61.39	1.059	.85	10.50	5.08	Do.
4	6	1688	1	10.0	1.3	2.40	1.81	62.62	1.057	1.64	(*)	.....	Do.
8	Y	1820	1	9.0	1.1	2.35	1.71	48.77	1.064	1.53	11.48	2.50	Dark green, some starch.
10	Y	1907	1	10.0	1.3	1.89?	2.27	55.63	1.065	1.47	12.61	1.55	Dark green, starchy.
11	4	1919	1	7.0	.9	1.01	.75	46.49	1.073	.93	12.78	3.67	Dark green, some starch.
11	Y	1929	1	9.3	1.0	1.91	1.36	68.12	1.050	1.19	7.42	2.87	Do.
11	Y	1931	1	8.0	1.0	1.56	1.02	62.15	1.038	2.05	4.74	1.92	Do.
11	Y	1932	1	10.5	1.2	2.60	1.82	58.33	1.041	1.53	5.27	2.47	Do.
13	Y	1941	1	8.6	1.2	2.38	1.75	63.50	1.047	1.28	6.72	2.84	Do.
13	X	1942	1	8.6	1.2	2.29	1.66	65.56	1.046	1.85	7.09	2.00	Do.
13	Y	1943	1	10.9	1.1	2.80	2.06	58.48	1.045	1.27	7.62	1.59	Do.
18	8	2108	1	8.0	1.0	1.26	.92	44.60	1.073	1.36	12.91	1.76	Dark green, starchy.
18	Z	2116	2	9.5	1.1	3.67	2.77	56.42	1.053	1.34	8.43	3.15	Do.
23		2361	1	8.0	1.1	1.28	1.07	56.97	1.056	1.03	9.70	2.80	Dark green, some starch.
23	Y	2362	1	8.0	1.1	1.76	1.52	61.56	1.065	1.91	12.10	2.09	Do.
23	Y	2363	1	10.5	1.3	2.83	2.22	61.90	1.068	1.11	12.44	3.06	Do.
23	Y	2364	1	7.4	1.0	1.37	1.07	57.53	1.046	1.05	8.02	2.16	Do.
23	Y	2365	1	8.0	1.2	1.92	1.23	73.06	1.049	.77	7.76	2.96	Do.
23	Y	2366	1	9.0	1.2	1.27	1.48?	37.83?	1.019	1.19	1.95	1.13	Do.
24	Y	2435	1	8.9	1.3	1.50	1.11	55.75	1.028	1.93	3.39	2.02	Dark brown, starchy.
24	Y	2436	1	7.5	1.2	1.43	1.07	47.95	1.056	.59	9.78	3.69	Dark green, some starch.
24	Y	2437	1	8.6	1.1	.98	.87	55.19	1.067	1.10	10.77	4.72	Do.
24	Y	2438	1	7.5	1.1	1.47	1.02	49.56	1.068	.82	11.03	5.24	Do.
24	Y	2439	1	7.7	.9	.88	.65	58.44	1.027	.79	4.91	1.12	Do.
24	Y	2440	1	10.0	1.1	1.94	1.58	62.25	1.040	1.12	6.41	2.61	Do.
24	Y	2441	1	9.3	1.2	1.96	1.35	58.04	1.047	1.25	13.49	.....	Do.
25	6	2515	1	9.8	1.1	1.50	1.23	53.75	1.061	.92	8.98	5.32	Do.
Oct. 23	....	3196	1	9.0	1.3	2.00	1.64	58.37	1.069	.60	12.54	4.39	Dark green.
23	10	3203	2	9.0	1.0	2.93	2.33	57.63	1.077	.71	13.99	4.91	

*Not inverted.

TABLE No. 47.—SANFORD CORN. B. F. HATHEWAY, VERMONT.

July 28	1	249	3	5.5	0.9	4.46	1.90	59.18	1.037	1.90	4.64	2.52	Very dark green.
31	1	331	2	6.5	.8	2.37	1.49	49.63	1.048	1.56	7.01	3.31	Do.
Aug. 7	2	558	2	5.5	.8	1.65	.85	57.11	1.059	1.58	9.66	4.91	Do.
14	3	782	2	6.2	1.1	2.31	1.58	55.80	1.062	1.68	10.84	3.11	Do.
21	4	1047	2	6.1	.9	2.50	1.19	51.59	1.057	.87	9.73	3.92	Dark green, starchy.
28	5	1390	2	7.2	.9	2.00	1.01	46.39	1.064	.87	10.00	5.34	Do.
Sept. 4	6	1666	3	5.7	.9	2 11	1.43	32.87	1.062	.88	10.57	4.13	Do.
8	Y	1826	6	5.0	1.0	3.07	2.17	57.78	1.048	1.30	7.33	3.11	Dark green, some starch.
10	Y	1913	3	6.0	.9	1.76	1.08	55.91	1.047	1.25	7.38	2.59	Dark green, starchy.
11	6, 7	1924	6	6.6	.9	2.78	2.27	46.70	1.063	1.15	9.66	5.09	Dark green, some starch.
18	5	2114	5	6.0	.8	1.70	1.46	59.90	1.057	1.40	8.78	3.92	Dark green, starchy.
18	Z	2122	13	5.0	.9	5.72	4.45	47.16	1.058	.93	7.87	3.39	Do.

ANALYSES OF JUICES FROM CORNSTALKS—Continued.

TABLE No. 48.—MAMMOTH DENT, CHESTER COUNTY, PENNSYLVANIA. M. J. VARNEY, NORTH COLLINS, N. Y.

Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Remarks on juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	
July 28	1	248	1	8.0	1.3	3.62	1.71	55.15	1.038	1.93	4.83	2.54	Very dark green.
31	1	330	2	7.2	1.0	4.75	2.35	54.95	1.041	2.27	5.49	2.47	Do.
Aug. 7	2	557	2	6.6	1.0	2.96	1.85	56.18	1.057	1.14	9.62	3.55	Dark green.
14	3	781	2	7.2	1.3	3.83	2.39	55.65	1.060	.97	9.25	4.50	Do.
21	4	1046	1	6.7	1.0	1.91	1.12	52.45	1.068	.64	11.84	4.33	Dark green, starchy.
28	5	1389	1	8.1	1.3	2.68	1.87	51.29	1.064	.96	11.03	4.41	Do.
Sept. 4	6	1665	1	6.5	1.2	1.63	1.07	45.68	1.072	.70	11.85	3.22	Do.
8	Y	1825	1	9.0	1.3	3.06	2.45	55.24	1.075	.53	12.80	5.27	Dark green, some starch.
10	Y	1912	2	6.0	1.0	2.72	2.04	66.26	1.041	.81	6.77	1.88	Dark green, starchy.
13	Y	1951	2	7.0	1.1	2.09	1.58	69.40	1.062	.74	10.50	4.11	Do.
18	7	2113	3	6.5	1.1	2.99	2.41	56.03	1.071	.64	11.94	5.11	Do.
18	Z	2121	1	7.3	1.2	1.18	1.03	60.30	1.041	.84	7.07	2.37	Do.
25	Z	2505	1	6.8	1.1	.95	.71	60.55	1.047	.99	7.45	2.97	Dark green, some starch.
25	Z	2506	1	6.5	1.2	1.56	1.02	50.00	1.041	1.49	6.41	2.33	Do.
25	Z	2507	1	6.3	1.0	1.25?	1.28	61.35	1.074	.74	12.60	5.05	Do.
25	Z	2508	1	6.3	1.0	1.21	.88	51.50	1.068	.61	13.88	2.17	Do.
25	Z	2509	1	7.0	1.2	1.89	1.55	53.96	1.066	.47	11.43	4.56	Do.
25	Z	2510	1	8.5	1.3	2.84	2.72	60.50	1.052	.65	8.86	4.28	Do.
25	8	2511	3	6.0	1.0	2.95	3.08?	39.71?	1.072	.69	11.02	6.15	Do.
Oct. 16	9	3072	5	5.8	1.0	3.58	3.36	48.19	1.066	1.14	11.06	4.73	Dark green.
16	11	3073	2	6.3	1.1	1.82	1.33	47.85	1.063	.97	9.51	1.66	Do.
23	....	3199	2	8.4	1.1	2.55	2.06	61.11	1.059	.68	9.58	6.17	Do.

TABLE No. 49.—EARLY MINNESOTA DENT. M. J. VARNEY, NORTH COLLINS, N. Y.

July 24	1	154	2	6.5	0.7	1.68	1.08	36.85	1.033	1.55	4.30	2.62	Light green, some starch.
27	1	236	2	6.0	.8	1.68	.99	40.29	1.055	.95	9.75	4.04	Very dark green.
24	2	153	2	6.5	.8	2.21	1.49	44.09	1.047	1.91	7.26	4.20?	Very dark green, starchy.
31	3	329	2	5.7	.7	1.79	.92	48.04	1.062	1.28	11.08	3.60	Dark green.
Aug. 7	4	556	2	5.8	.9	1.83	.80	44.66	1.070	.68	12.09	4.66	Dark green, watery, starchy.
14	5	780	2	5.9	.8	.82	.62	33.33	1.057	.68	7.95	5.47	Dark green.
17	2	907	1	5.0	.8	.81	.41	37.18	1.067	.91	11.05	4.35	Dark green, starchy.
21	6	1045	2	5.5	.8	.93	.66	42.61	1.057	1.21	8.51	4.75	Do.
28	7	1388	1	5.2	.8	.36	.20	20.64	1.067	1.76	10.69	5.08	Do.
Sept. 4	6	1667	3	6.0	.8	1.43	.80	56.16	1.064	.73	10.84	4.88	Do.
8	Y	1824	4	6.0	.9	1.64	1.28	43.46	1.060	.94	9.70	4.27	Dark green, some starch.
10	Y	1911	5	6.0	.9	1.43	1.19	37.03	1.055	1.36	7.49	4.08	Dark green, starchy.
11	7	1923	2	5.0	.9	.86	.75	39.47	1.076	.68	11.45	6.18	Dark green, some starch.
13	Y	1950	6	6.0	.8	1.92	1.47	42.15	1.063	.79	9.97	4.52	Dark green, starchy.
18	Z	2120	16	5.6	.9	3.94	2.66	25.04	1.074	1.22	9.78	7.16	Do.

ANALYSES OF JUICES FROM SORGHUM.

A few additional examinations have been made of canes received from experimenters outside the Department grounds.

The canes were in some cases delayed, and did not reach the Department in very good condition, being withered or partially fermented.

TABLE No. 50.

SAMPLES OF SORGHUM CANES RECEIVED FROM ABROAD.

Contributor.	Date.	Development.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.
					Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*	
J. H. Strider, Halltown, W. Va	Sept. 28	.....	2653	6	7.0	.8	.....	5.87	64.10	1.071
D. M. Nesbit, College Station, Md	Sept. 23	.....	2355	1	6.0	1.0	.....	1.11	68.10	1.069
F. Y. Braendle, Arlington, Va	Sept. 17	14	2067	6	8.8	.8	10.30	8.12	56.09	1.071
E. Lawford, Sandy Springs, Md	Sept. 28	.....	2592	4	6.8	.8	.....	3.35	60.77	1.076
D. M. Nesbit, College Station, Md	Sept. 17	11	2105	2	8.3	.6	1.61	1.36	66.45	1.054
E. Lawford, Sandy Springs, Md	Oct. 8	.....	2784	4	9.2	.6	3.46	2.85	64.37	1.082
Do do do	Oct. 16	16	3001	6	9.1	.7	2.86	2.41	56.52	1.667
Do do do	Sept. 13	9–10–11	1952	6	8.5	.6	5.89	4.71	64.43	1.073
Prof. J. W. Sanborn, Hanover, N. H.	Sept. 22	9	2301	4	9.0	.9	6.10	4.91	64.48	1.055
John Hufbauer, El Paso, Kans	Oct. 8	.....	2859	1	10.0	1.0	1.54	1.31	63.63	1.069
D. M. Nesbit, College Station, Md	Sept. 8	5–9	1851	4	8.4	.7	3.23	2.76	69.08	1.053
Inglis Stuart, New York, N. Y	Oct. 15	.....	3042	...	.....	...	.....	.42	62.11	1.056
N. M. Curtiss, Ogdensburgh, N. Y	Aug. 26	.....	1289	12	5.5	.9	.....	5.90	53.20	1.052
D. M. Nesbit, College Station, Md	Sept. 17	9	2106	2	7.5	.7	1.41	1.20	65.63	1.045
F. Y. Braendle, Arlington, Va	Sept. 17	.....	2068	3	10.0	1.2	6.67	4.47	59.83	1.035
N. M. Curtiss, Ogdensburgh, N. Y	Aug. 26	1–3	1290	10	7.3	.8	.....	6.67	67.35	1.037
Prof. J. W. Sanborn, Hanover, N. H.	Sept. 10	3	1916	4	10.0	.9	5.38	4.41	67.39	1.038

Contributor.	Date.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Exponent.	Available sucrose in juice.	Remarks on juice.
		Pr. ct.	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	
J. H. Strider, Halltown, W. Va	Sept. 28	2.38	13.19	1.84	75.76	9.99	Dark green, somewhat starchy.
D. M. Nesbit, College Station, Md	Sept. 23	1.87	12.72	2.53	74.30	9.45	do
F. Y. Braendle, Arlington, Va	Sept. 17	1.35	12.52	3.40	72.50	9.08	
E. Lawford, Sandy Springs, Md	Sept. 28	6.78	9.88	2.03	52.86	5.23	Thin and watery
D. M. Nesbit, College Station, Md	Sept. 17	2.96	9.24	1.75	66.24	6.12	Dark green, starchy
E. Lawford, Sandy Springs, Md	Oct. 8	8.42	9.23	2.40	46.03	4.25	do
Do do do	Oct. 16	5.10	9.03	2.60	53.97	4.87	Dark green
Do do do	Sept. 13	3.87	8.70	5.00	49.52	4.31	Light green, starchy
Prof. J. W. Sanborn, Hanover, N. H.	Sept. 22	4.33	8.51	1.37	59.47	5.09	Dark green, somewhat starchy.
John Hufbauer, El Paso, Kans	Oct. 8	7.71	7.34	1.88	43.35	3.18	
D. M. Nesbit, College Station, Md	Sept. 8	3.28	6.41	3.65	48.05	3.06	Dark green, starchy
Inglis Stuart, New York, N. Y	Oct. 15	5.68	6.30	1.51	46.70	2.94	Dark green
N. M. Curtiss, Ogdensburgh, N. Y	Aug. 26	5.17	6.15	1.66	47.38	2.91	Dark green, starchy
D. M. Nesbit, College Station, Md	Sept. 17	3.77	5.99	1.92	51.28	3.07	do
F. Y. Braendle, Arlington, Va	Sept. 17	4.02	3.96	1.10	43.61	1.73	do
N. M. Curtiss, Ogdensburgh, N. Y	Aug. 26	5.36	3.26	1.02	33.82	1.10	
Prof. J. W. Sanborn, Hanover, N. H.	Sept. 10	5.37	3.26	.77	84.68	1.13	Dark green, starchy

ANALYSES OF JUICES FROM CORN STALKS.

SAMPLES OF CORNSTALKS SENT IN FROM ABROAD.

Contributor.	Date.	Number of analysis.	Number of stalks.	Length.	Diameter at butt.	Total weight.	Stripped weight.	Juice expressed.	Specific gravity of juice.
				Ft.	*In.*	*Lbs.*	*Lbs.*	*Pr. ct.*	
F. Y. Braendle, Arlington, Va	Sept. 29	2680	2	.....	1.3	.....	1.82	42.78	1.018
Do do	Sept. 29	2676	1	4.9	1.2	.....	.89	60.34	1.019
Do do	Sept. 29	2677	1	5.6	1.3	.....	1.76	62.04	1.014
Do do	Sept. 29	2678	1	.....	1.2	.....	1.03	52.36	1.010
Do do	Sept. 29	2679	1	.....	1.2	.....	1.28	60.34	1.012

Contributor.	Date.	Glucose in juice.	Sucrose in juice.	Solids not sugar in juice.	Exponent.	Available sucrose in juice.	Remarks on juice.
		Pr. ct.	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	
F. Y. Braendle, Arlington, Va	Sept. 29	1.20	2.87	1.23	54.15	1.55	Brown
Do do	Sept. 29	2.21	2.31	.78	43.58	1.00	do
Do do	Sept. 29	2.29	1.12	.63	27.72	.30	do
Do do	Sept. 29	.93	.98	1.01	33.56	.83	do
Do do	Sept. 29	1.24	.94	1.08	28.83	.27	do

AVERAGES OF EACH STAGE OF EACH VARIETY.

TABLE NO. 51.—EARLY AMBER. D. SMITH, ARLINGTON, VA.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 12	June 25	1	4.71	.60	.99	6.30	9.52	.06	36.27
2	July 13	June 29	1	3.77	2.25	1.72	7.74	29.07	.65	52.30
3	July 15	July 3, 6	1	3.66	5.53	.91	10.10	54.75	3.03	46.99
4	July 16	July 12, 16	1	3.62	4.91	.95	9.48	51.79	2.54	54.73
5	July 17	July 9	1	3.10	7.81	1.83	12.74	61.30	4.79	43.97
6	July 20	July 12	1	2.78	9.55	2.03	14.36	66.50	6.35	44.13
7	July 22	July 15	2	2.26	9.60	2.86	14.72	65.22	6.26	49.38
8	July 23	July 18	1	2.87	10.74	2.15	15.76	68.15	7.32	61.83
9	.....	July 21	4	2.49	11.20	2.22	15.91	70.40	7.88	.....
10	July 28	July 24	8	2.04	12.08	2.26	16.38	73.75	8.91	65.28
11	August 4	July 28	6	1.45	13.80	3.06	18.31	75.37	10.40	62.99
12	August 11	August 1	11	1.19	14.06	3.02	18.27	76.96	10.82	61.95
13	August 20	August 7	10	1.23	12.69	2.82	16.74	75.82	9.62	59.77
14	September 5	August 14	10	1.15	12.62	3.39	17.16	73.54	9.28	55.24
15	September 10	August 22	14	1.52	10.62	3.37	15.51	68.47	7.27	57.34
16	September 28	August 31	10	1.50	11.10	3.00	15.60	71.15	7.90	60.35
17	October 20	.....	7	1.39	13.63	3.69	18.71	72.85	9.93	57.26
18	October 28	.....	9	1.78	10.50	4.02	16.30	64.42	6.76	57.27

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 52.—EARLY AMBER. PLANT SEED CO., ST. LOUIS, MO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 12	June 25	1	4.04	.98	.91	5.93	16.53	.16	62.78
2	July 18	June 29	2	3.54	5.45	1.86	10.85	50.23	2.74	43.31
3	July 16	July 3, 6	1	4.01	.....	1.40	7.14	24.23	.....	54.00
4	July 17	July 12, 16	1	2.68	7.95	2.14	12.77	62.26	4.95	59.87
5	July 20	July 9	1	3.05	6.44	1.80	11.29	57.04	3.67	64.79
6	July 20	July 12	1	3.13	6.97	1.72	11.82	58.97	4.11	52.46
7	July 21	July 15	1	2.64	10.02	2.19	14.85	67.48	6.76	51.23
8	July 23	July 18	1	2.87	9.36	1.78	14.01	66.81	6.25	58.81
9	.....	July 21	4	2.58	10.48	2.21	15.27	68.63	7.19	.....
10	July 29	July 24	5	1.94	12.02	2.53	16.49	72.89	8.76	62.51
11	August 4	July 28	6	1.55	13.35	3.45	18.35	72.75	9.71	64.65
12	August 15	August 1	9	1.46	13.84	3.14	18.44	75.05	10.39	62.24
13	August 17	August 7	5	1.20	12.75	2.41	16.36	77.93	9.94	63.78
14	August 22	August 14	15	1.47	11.74	2.88	16.09	72.96	8.57	60.39
15	September 17	August 22	16	1.51	10.70	3.85	16.06	67.00	7.17	57.22
16	September 16	August 31	9	1.70	8.84	3.45	13.99	63.19	5.59	57.34
17	October 8	.....	5	1.25	12.79	3.72	17.76	72.02	9.21	62.70
18	October 31	.....	15	2.04	10.13	3.76	15.93	63.59	6.44	56.96

TABLE No. 53.—EARLY GOLDEN. A. B. SWAIN, ELYSIAN, MINN.

1	July 12	July 1	1	3.68	.70	.77	5.15	13.59	.10	63.90
2	July 15	July 5, 9	1	3.83	2.08	5.68	11.59	17.95	.37	40.82
3	July 16	July 7, 12	1	4.09	2.34	1.22	7.65	30.59	.72	48.04
4	July 17	July 12, 16	1	3.05	6.43	1.86	11.34	56.70	3.65	52.10
5	July 20	July 15	1	3.10	7.03	1.64	11.77	59.73	4.20	58.27
6	July 20	July 18	1	3.04	7.63	1.44	12.11	63.01	4.81	54.95
7	July 23	July 21	1	2.81	9.34	2.28	14.43	64.73	6.05	47.02
8	July 26	July 24	1	2.52	11.77	1.89	16.18	72.74	8.56	62.00
9	July 27	July 27, 30	1	2.04	11.09	2.92	16.05	69.10	7.66	60.79
10	July 29	July 28	2	1.75	11.09	2.52	15.36	72.20	8.01	51.56
11	July 31	August 2	1	1.66	12.27	3.89	17.82	68.86	8.45	63.28
12	August 7	August 6, 10	12	1.46	13.65	3.22	18.33	74.47	10.27	65.16
13	August 27	August 7	15	1.40	12.33	2.93	16.66	74.01	9.13	61.69
14	September 7	August 14	18	1.54	11.01	3.29	15.84	69.50	7.65	60.27
15	September 8	August 20	10	1.72	8.97	3.05	13.74	65.28	5.86	58.36
16	October 5	August 26	11	2.05	9.02	3.91	14.98	62.14	5.61	56.51
17	October 29	.....	5	1.41	13.50	3.31	18.22	74.10	10.00	60.72
18	November 5	.....	7	2.21	10.41	2.83	15.45	67.38	7.01	60.22

TABLE No. 54.—GOLDEN SIRUP. W. H. LYTLE, YELLOW SPRINGS, OHIO.

1	July 12	July 2	1	3.59	.48	.87	4.94	9.72	.05	65.32
2	July 16	July 7, 12	1	3.81	2.22	3.09	9.12	24.34	.54	48.07
3	July 17	July 16	1	4.05	3.61	1.87	9.53	37.88	1.37	53.55
4	July 19	July 12, 16	1	3.97	5.28	1.41	10.66	49.53	2.62	44.12
5	July 20	July 19	1	3.81	5.38	1.83	11.02	48.82	2.63	62.71
6	July 21	July 22	1	2.34	7.37	2.24	11.95	61.68	4.55	59.01
7	July 23	July 23	1	2.75	8.83	1.85	13.43	65.75	5.81	59.39
8	July 23	July 25	1	2.99	8.33	2.17	13.49	61.75	5.14	56.41
9	July 26	July 28	1	3.44	8.61	1.88	13.93	61.81	5.32	64.14
10	August 10	August 31	16	1.83	11.57	2.68	16.08	71.95	8.32	64.13
11	August 10	August 3	11	1.60	12.92	2.92	17.44	74.08	9.57	64.57
12	August 27	August 6, 10	7	1.18	13.74	3.21	18.13	75.78	10.41	61.75
13	September 4	August 7, 14	2	.87	15.30	2.95	19.12	80.02	12.24	59.28
14	August 31	August 15	9	1.42	11.44	3.07	15.93	71.81	8.22	60.71
15	September 14	August 22	13	1.54	10.62	2.81	14.97	70.93	7.53	58.86
16	October 2	August 30	9	1.52	11.78	3.30	16.60	70.96	8.36	60.24
17	October 21	.....	6	1.61	12.52	3.95	18.08	69.25	8.67	58.29
18	November 5	.....	6	2.10	9.24	3.25	14.59	63.33	5.85	58.82

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

Table No. 55.—White Liberian. D. Smith, Arlington, Va.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 12	July 3	1	3.28	1.19	.79	5.26	22.62	.27	46.57
2	July 16	July 8, 12	1	3.81	2.45	.87	7.13	34.36	.84	47.09
3	July 17	July 7, 12, 16	1	3.68	2.35	2.05	8.08	29.08	.68	51.53
4	July 17	July 15	1	3.21	3.70	1.72	8.63	42.87	1.59	42.28
5	July 21	July 16	1	3.58	5.11	1.62	10.31	49.56	2.53	43.87
6	July 21	July 17	1	3.16	7.20	2.03	12.39	58.11	4.18	57.00
7	July 23	July 19	1	3.30	6.30	1.98	11.58	54.40	3.43	63.20
8	July 26	July 21	1	2.99	8.46	1.63	13.08	64.68	5.46	64.84
9	July 27	July 24	1	2.94	8.93	2.03	13.90	64.24	5.74	41.60
10	August 6	July 27	5	2.28	10.80	2.73	15.81	68.31	7.38	63.90
11	August 15	August 1	8	1.77	12.11	2.84	16.72	72.43	8.77	66.75
12	August 9	August 7	7	1.63	12.81	3.16	17.60	72.78	9.32	67.09
13	August 21	August 14	6	1.27	13.10	2.92	17.29	75.77	9.93	63.94
14	August 19	August 21, 28	3	1.02	14.37	2.85	18.24	78.78	11.32	64.19
15	September 2	August 28, Sept. 4	6	1.13	13.69	2.84	17.66	77.52	10.61	64.16
16	September 25	September 4	6	1.21	12.88	3.07	17.16	75.06	9.67	58.36
17	November 3		3	1.16	15.05	4.54	20.75	72.53	10.92	62.24
18	November 10		5	1.87	10.41	3.16	15.44	67.42	7.02	63.46

Table No. 56.—Early Amber. S. E. Evans, Monroe, Kans.

1	July 15	July 3	1	4.22	.60	.49	5.31	11.30	.07	51.28
2	July 16	July 8	1	4.38	1.39	1.51	7.28	19.09	.27	52.67
3	July 20	July 12	1	4.60	3.71	2.48	10.79	34.38	1.28	62.13
4	July 22	July 16	2	4.43	3.40	1.38	9.21	36.92	1.60	59.85
5	July 22	July 20	1	4.13	5.50	2.04	11.67	47.13	2.59	57.05
6	July 22	July 24	1	3.76	6.67	2.20	12.63	52.81	3.52	52.77
7	July 24	July 27	1	3.19	5.91	1.51	10.61	55.70	3.29	67.72
8	July 26	July 29	1	2.85	8.82	1.41	13.08	67.43	5.95	50.89
9	July 28	July 31	4	3.15	8.32	2.19	13.66	60.91	5.07	65.50
10	August 10	August 1	6	2.36	10.74	2.83	15.93	67.42	7.23	64.09
11	August 9	August 2	1	1.83	12.84	3.07	17.74	72.38	9.29	62.61
12	August 18	August 4	3	1.57	13.16	2.89	17.62	74.69	9.83	59.51
13	September 19	August 7	8	1.31	11.72	3.16	16.19	72.39	8.48	58.23
14	September 1	August 14	2	1.38	12.68	3.86	17.92	70.76	8.97	59.98
15	October 1	August 28	5	1.50	13.16	3.42	18.08	72.79	9.58	57.00
16	October 13	September 15	3	1.12	15.32	3.13	19.57	78.28	11.99	56.39
17	November 5		2	2.04	13.60	3.43	19.07	71.32	9.70	59.45

Table No. 57.—Black Top. D. W. Aiken, Cokesbury, S. C.

1	July 17	July 6, 10	1	2.92	3.88	1.52	8.32	46.63	1.81	47.07
2	July 17	July 8, 12	1	2.01	3.23	1.81	7.05	45.82	1.49	52.87
3	July 20	July 13	1	3.88	4.31	1.80	9.99	43.14	1.86	44.39
4	July 22	July 16	1	1.83	4.84	1.98	8.65	55.95	2.71	54.93
5	July 22	July 18	1	3.00	5.35	2.29	10.64	50.28	2.69	46.79
6	July 22	July 20	1	2.01	5.82	1.84	9.67	60.19	3.50	62.65
7	July 23	July 23	1	2.06	7.90	2.11	12.07	65.45	5.17	66.49
8	July 26	July 26	1	1.97	7.78	1.48	11.23	69.28	5.39	59.90
9	July 31	July 31	7	1.66	10.21	2.54	14.41	70.85	7.23	61.91
10	August 12	August 7	4	1.24	11.67	2.81	15.72	74.24	8.66	64.46
11	August 19	August 14	2	.79	13.49	4.08	18.36	73.48	9.91	59.73
12	August 23	August 21, 28	2	.77	13.58	3.33	17.68	76.81	10.43	63.54
13	August 26	August 21, 28	2	.84	13.89	2.40	17.13	81.09	11.26	61.03
14	August 31	September 4	1	.93	12.79	3.67	17.39	73.55	9.41	63.72
15	September 9	September 14	6	.98	12.27	3.30	16.55	74.26	9.11	59.49
16	September 29	September 29	7	1.16	12.58	2.59	16.33	77.04	9.77	58.97
17	October 17		3	.51	14.78	4.35	19.64	75.26	11.12	59.98
18	October 26		1	3.17	11.59	1.58	16.34	70.93	8.22	60.68

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 58.—AFRICAN. W. E. PARKS. CARLISLE, KY.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 17	July 2	1	2.92	2.98	1.53	7.43	40.11	1.20	58.49
2	July 17	July 7, 12	1	4.25	1.76	1.84	7.85	22.42	.39	51.74
3	July 19	July 16	1	4.67	1.73	1.34	7.74	22.35	.39	38.15
4	July 21	July 12, 16	1	3.28	1.87	1.71	6.86	27.26	.51	49.79
5	July 24	July 19	2	4.38	3.84	1.66	9.88	38.87	1.49	56.76
6	July 21	July 22	1	3.62	5.66	1.97	11.25	50.31	2.85	47.45
7	July 23	July 25	1	3.85	4.67	1.52	10.04	46.51	2.17	52.63
8	July 26	July 28	1	2.67	8.96	2.32	13.95	64.23	5.76	56.62
9	August 5	July 31	10	1.49	11.32	2.55	15.36	73.70	8.34	64.21
10	August 3	August 7	6	2.40	8.76	2.90	14.06	62.30	5.46	63.09
11	August 14	August 14, 21	9	1.24	12.31	3.02	16.57	74.29	9.15	63.44
12	August 21	August 14, 21	4	2.26	10.52	2.89	15.67	67.14	7.06	63.43
13	August 24	August 28	4	1.85	11.02	2.83	15.70	70.19	7.73	65.94
14	August 27	September 4	4	1.44	11.80	3.76	17.00	69.41	8.19	65.56
15	September 3	September 12	8	1.68	10.56	3.05	15.29	69.07	7.29	59.93
16	September 24	September 22	24	.98	13.03	3.33	17.34	75.09	9.78	61.73
17	October 22		8	1.58	13.67	3.97	19.22	71.12	9.69	59.27
18	November 7		6	1.67	12.01	3.13	16.81	71.44	8.58	62.59

TABLE No. 59. AMOS CARPENTER, CARPENTER'S STORE P. O., MO.

1	August 2	August 2	1	2.95	3.05	2.10	8.10	37.65	1.15	70.98
2	August 4	August 4	2	2.92	3.73	1.74	8.39	44.46	1.66	72.28
3	August 9	August 7	1	2.68	6.13	2.23	11.04	55.53	3.40	69.84
4	August 18	August 10	4	3.13	7.07	2.02	12.22	67.86	4.09	67.44
5		August 14	2	2.78	7.80	2.04	12.62	61.81	4.82	.....
6		August 17	4	2.72	8.07	2.00	12.79	63.10	5.09	.....
7	August 23	August 21	4	2.88	9.46	1.84	14.18	66.71	6.31	68.00
8	August 26	August 28	2	2.29	9.15	2.04	13.48	67.88	6.21	69.43
9	August 26	September 1	2	1.95	9.88	2.30	14.13	69.92	6.91	68.07
10	September 3	September 4	4	1.64	11.28	2.58	15.50	72.77	8.21	68.25
11	September 8	September 9	4	1.46	12.37	2.90	16.73	73.94	9.15	57.02
12	September 18	September 15	4	1.14	12.28	4.50	17.92	68.53	8.42	61.82
13	September 27	September 22	6	.92	13.94	3.25	18.11	76.97	10.73	61.16
14	September 28	September 29	5	1.09	15.11	3.74	19.94	75.78	11.45	62.25
15	October 8	October 8	5	1.10	14.70	4.17	19.97	73.61	10.82	62.64
16	October 21	October 21	2	1.19	15.06	3.13	19.38	77.71	11.70	62.53
17	November 5		2	.86	13.76	3.31	17.93	76.69	10.55	62.84

TABLE No. 60.—OOMSEEANA. BLYMYER & CO., CINCINNATI, OHIO.

1	July 15	July 7, 12	1	2.84	1.55	2.30	6.69	23.17	.36	31.60
2	July 15	July 8, 12	1	4.82	1.46	.99	7.27	20.08	.29	51.83
3	July 20	July 16	1	2.85	2.26	1.79	6.90	32.75	.74	58.60
4	July 21	July 19	1	3.03	2.71	1.98	7.72	35.10	.95	57.10
5	July 21	July 22	1	2.57	4.33	1.84	8.74	49.54	2.15	42.80
6	July 23	July 24	2	2.95	4.26	1.90	9.11	46.76	1.99	65.30
7	July 23	July 27	2	3.68	3.27	2.04	8.99	36.37	1.19	61.22
8	July 23	August 1, 7	1	2.11	6.29	2.02	10.42	60.36	3.80	58.88
9	August 2	July 31, August 7	4	3.18	6.48	2.37	12.03	53.86	3.49	64.67
10	August 8	August 14, 21	22	2.29	8.20	2.32	12.81	64.01	5.25	66.42
11	August 20	August 14, 21, 28	4	1.72	9.49	2.64	13.85	68.52	6.50	68.59
12	August 24	August 28	4	1.69	12.42	2.47	16.58	74.91	9.30	66.53
13	August 26	September 4	4	1.65	11.43	2.88	15.96	71.62	8.19	65.34
14	September 3	September 11	8	1.52	11.31	2.77	15.60	70.52	7.98	62.61
15	September 13	September 18	7	1.42	12.13	2.71	16.26	74.60	9.05	63.50
16	September 28	September 25	16	.92	12.92	3.55	17.39	74.30	9.60	63.07
17	October 20		6	2.06	11.59	2.88	16.53	70.12	8.13	63.69
18	November 3		9	1.20	13.29	4.25	18.74	70.92	9.42	64.31

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE NO. 61.—REGULAR SORGHO. BLYMYER & CO., CINCINNATI, OHIO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 19	July 12	1	4.76	1.07	2.66	8.49	12.60	.13	45.48
2	July 20	July 14	1	2.97	3.18	1.39	7.54	42.19	1.34	57.10
3	July 23	July 16	1	4.27	2.53	2.24	9.04	27.99	.71	53.46
4	July 23	July 19	1	4.55	2.18	1.59	8.32	26.20	.57	50.58
5	July 23	July 22	1	3.75	4.62	1.95	10.32	44.77	2.07	46.25
6	July 23	July 25	1	3.45	5.55	2.40	11.40	48.68	2.70	56.74
7	July 28	July 28	2	3.64	7.03	.57	11.24	62.55	4.40	60.54
8	July 29	July 31	1	3.64	6.37	2.69	12.70	50.16	3.19	63.70
9	August 7	August 7	13	2.51	9.79	2.56	14.86	65.88	6.45	62.08
10	August 13	August 7, 14, 21	6	2.18	11.15	2.36	15.69	71.06	7.92	64.51
11	August 23	August 21	8	1.89	10.24	2.45	14.58	70.23	8.71	64.44
12	August 27	August 28	4	1.39	10.80	3.06	15.25	70.82	7.65	60.00
13	August 31	September 4	8	1.33	11.53	3.05	15.91	72.47	8.36	59.14
14	September 2	September 11	8	1.28	12.67	3.20	17.15	73.88	9.36	59.14
15	September 9	September 18	4	1.41	11.77	2.58	15.76	74.68	8.79	62.72
16	September 26	September 26	20	1.18	12.52	3.19	16.89	74.13	9.28	59.44
17	October 23		8	1.38	13.28	4.10	18.76	70.79	9.40	58.06
18	November 9		5	1.34	12.11	3.29	16.74	72.34	8.86	59.52

TABLE NO. 62.—HYBRID. E. LINK, GREENEVILLE, TENN.

1	July 24	July 16	1	2.85	3.17	2.32	8.34	38.01	1.20	56.60
2	July 24	July 21	1	3.06	3.67	2.18	8.91	41.22	1.51	56.90
3	July 26	July 26	1	2.88	5.48	2.06	10.42	52.59	2.88	59.25
4	July 29	July 31	2	2.76	6.25	2.29	11.30	55.31	3.46	63.55
5	August 1	August 3	2	2.60	6.61	2.75	11.96	55.28	3.65	67.44
6	August 3	August 6	1	2.82	9.23	2.14	14.19	65.05	6.00	65.42
7	August 5	August 8, 11	1	2.43	8.55	3.86	14.84	57.69	4.93	64.93
8	August 9	August 7, 14	1	1.68	10.42	3.12	15.22	68.46	7.13	79.39
9	August 17	August 14	3	1.72	11.60	2.89	16.21	71.53	8.30	65.10
10	August 19	August 21	2	1.16	13.83	3.15	18.19	76.31	10.49	63.16
11	August 25	August 28	4	1.17	13.30	3.30	17.77	74.85	9.95	62.44
12	August 26	August 31	2	1.07	13.64	2.97	17.68	77.15	10.52	64.78
13	September 1	September 4	4	1.05	14.20	3.49	18.74	75.77	10.76	64.64
14	September 8	September 11	1	.85	14.28	3.38	18.51	77.15	11.02	65.01
15	September 15	September 19	2	.72	15.21	3.39	19.32	78.73	11.97	61.51
16	September 28	September 28	6	.63	14.99	3.60	20.22	74.13	11.11	61.63
17	October 25		4	.46	16.14	4.57	21.17	76.24	12.31	62.40
18	October 27		2	.50	15.15	3.55	19.20	78.91	11.95	64.63

TABLE NO. 63.—SUGAR CANE. J. W. BARGER, LOVILIA, IOWA.

1	July 20	July 16	1	4.94	1.55	1.65	8.14	19.04	.30	68.75
2	July 20	July 20	1	5.61	1.93	1.51	9.05	21.33	.41	61.21
3	July 21	July 23	1	5.19	1.80	2.13	9.12	19.74	.36	54.10
4	July 21	July 26	1	5.13	3.33	2.00	10.46	31.84	1.06	59.35
5	July 22	July 28	1	4.69	3.81	1.96	10.46	36.42	1.39	53.61
6	July 24	July 30	1	5.13	3.85	2.15	11.13	34.59	1.30	51.56
7	July 27	August 2, 7	1	4.58	5.65	2.95	13.18	42.87	2.42	64.29
8	July 29	July 31, August 14	1	4.62	6.27	3.03	13.92	45.04	2.82	67.90
9	August 3	August 7, 14	6	4.15	10.11	2.85	17.11	59.09	5.97	66.18
10	August 17	August 21	3	2.10	12.09	2.95	17.14	70.54	8.53	64.26
11	August 23	August 23	2	1.98	13.97	3.18	19.13	73.03	10.20	63.33
12	August 27	August 25	4	1.74	13.01	3.72	18.47	70.44	9.16	62.25
13	September 3	August 28	2	1.46	13.86	3.19	18.51	74.88	10.38	60.26
14	September 8	September 4	2	1.35	14.16	2.77	18.28	77.46	10.97	62.13
15	September 15	September 14	2	1.33	14.72	2.86	18.91	77.84	11.46	62.22
16	September 28	September 28	6	1.26	13.54	3.20	18.00	75.22	10.18	61.33
17	October 20		3	1.17	14.54	4.49	20.20	71.98	10.47	63.15
18	November 1		4	1.05	14.49	3.47	19.01	76.22	11.04	61.99

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 64.—OOMSEEANA. D. W. AIKEN, COKESBURY, S. C.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 24	July 24	1	3.16	5.15	2.12	10.43	49.38	2.54	58.38
2	July 26	July 31	2	2.73	4.62	2.28	9.63	47.98	2.22	62.46
3	July 26	August 2	1	2.87	6.86	2.02	11.75	58.38	4.00	*56.33
4	July 27	August 3	1	2.72	6.69	2.98	12.39	54.00	3.61	58.44
5	July 30	August 4	3	2.70	7.05	2.20	11.95	59.00	4.16	66.39
6	August 1	August 5	2	2.41	9.32	2.77	14.50	63.59	5.93	66.14
7	August 5	August 7	1	2.17	9.42	2.87	14.46	65.15	6.14	66.30
8	August 5	August 12	1	2.17	10.58	3.49	16.24	65.15	6.89	64.00
9	August 14	August 14, 17, 21	3	1.24	11.55	3.04	15.83	72.96	8.43	65.66
10	August 22	August 23	6	1.71	10.04	2.83	14.58	68.86	6.91	65.97
11	August 27	August 28	2	1.64	11.15	3.08	15.87	70.26	7.83	62.85
12	September 1	August 31	4	1.35	11.79	3.38	16.52	71.37	8.41	61.45
13	September 7	September 4	1	1.02	11.91	2.61	15.54	76.64	9.13	65.19
14	September 15	September 10	2	1.12	13.28	2.79	17.19	77.25	10.26	64.92
15	September 22	September 17	2	.84	15.07	2.92	18.83	80.03	12.06	58.77
16	September 28	September 25	8	.68	14.78	3.67	19.13	77.26	11.42	57.81
17	October 20		4	.63	15.54	5.31	21.48	72.35	11.24	61.72
18	November 9		2	.97	13.26	3.42	17.65	75.13	9.96	56.10

TABLE No. 65.—NEEAZANA. W. H. LYTLE, YELLOW SPRINGS, OHIO.

1	July 17	July 12	1	4.95	1.13	1.86	7.94	14.23	.16	60.05
2	July 19	July 16	1	5.26	1.81	1.45	8.52	21.24	.38	56.23
3	July 23	July 20	1	4.80	3.22	2.62	10.64	30.26	.97	57.43
4	July 23	July 24	2	5.02	3.37	1.88	10.27	32.81	1.11	58.91
5	July 23	July 28	1	4.91	6.08	1.90	12.89	47.17	2.87	54.77
6	July 26	July 31	1	5.40	6.20	1.97	13.57	45.69	2.83	55.66
7	July 27	August 4	1	4.62	5.66	1.98	12.26	46.17	2.61	60.31
8	July 30	August 8, 14	2	4.32	6.66	2.41	13.39	49.74	3.31	61.46
9	August 6	August 7, 21	17	3.77	9.20	2.49	15.46	59.51	5.47	65.12
10	August 15	August 14, 21	8	2.94	11.11	2.84	16.89	65.78	7.31	63.89
11	August 20	August 28	8	2.52	11.32	3.00	16.84	67.22	7.61	65.47
12	August 28	September 4	8	2.61	11.93	2.73	17.27	69.08	8.24	63.52
13	August 31	September 11	8	2.47	12.15	3.01	17.63	68.92	8.37	61.33
14	September 7	September 18	4	2.18	11.73	2.15	16.06	73.04	8.57	61.71
15	September 18	September 25	8	1.99	13.06	2.87	17.92	72.88	9.52	61.15
16	October 1	October 1	12	1.86	13.62	3.27	18.75	72.64	9.89	61.25
17	October 21		7	1.66	14.22	4.55	20.43	69.60	9.90	59.20
18	November 4		7	1.94	13.15	3.05	18.14	72.49	9.53	64.57

TABLE No. 66.—GOOSE NECK. P. P. RAMSEY, BELGRADE, MO.

1	July 17	July 12	1	3.85	1.02	1.73	6.60	15.45	.16	60.49
2	July 19	July 14	1	4.31	1.56	1.52	7.39	21.11	.33	58.06
3	July 20	July 16	1	4.47	1.03	1.50	7.00	14.71	.15	52.75
4	July 22	July 18	1	5.07	2.16	1.84	9.07	23.81	.51	78.30
5	July 24	July 21	3	3.45	4.01	2.36	9.82	40.84	1.64	56.56
6	July 26	July 24	1	4.32	4.16	1.89	10.37	40.12	1.67	64.86
7	July 27	July 28	1	4.55	4.28	2.47	11.30	37.88	1.62	65.92
8	July 28	August 2, 7	1	4.10	4.83	2.13	11.06	43.67	2.11	63.90
9	August 9	July 31, August 7	23	2.91	8.94	2.28	14.13	63.27	5.66	66.45
10	August 20	August 14	4	1.71	10.35	3.05	15.11	68.50	7.09	64.78
11	August 24	August 21, 24, 28	4	1.80	11.43	2.32	15.55	73.51	8.40	65.93
12	August 26	September 4	4	1.91	10.48	2.63	15.02	69.77	7.31	65.51
13	September 1	September 13	4	1.62	11.09	3.02	15.73	70.50	7.82	65.26
14	September 3	September 20	3	1.37	12.40	2.32	16.09	77.07	9.56	63.06
15	September 16	September 27	12	1.31	12.42	2.80	16.53	75.14	9.33	57.87
16	September 30	October 4	12	1.24	13.31	3.64	18.19	72.07	9.59	59.92
17	October 19		5	.96	14.72	4.23	19.91	74.94	11.03	57.32
18	November 4		9	1.89	12.01	3.51	17.41	68.98	8.28	62.19

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 67.—EARLY ORANGE. I. A. HEDGES, SAINT LOUIS, MO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 19	July 12	1	5.09	1.39	1.56	8.04	17.29	.24	60.18
2	July 20	July 16	1	4.83	2.98	1.76	9.57	31.14	.93	58.57
3	July 21	July 20	1	5.32	3.19	1.59	10.10	31.58	1.01	50.52
4	July 21	July 23	1	5.24	3.16	1.57	9.97	31.61	1.00	51.08
5	July 23	July 26	1	4.94	4.46	1.81	11.21	39.79	1.77	54.57
6	July 26	July 29	1	5.24	4.01	1.67	10.92	36.72	1.47	63.88
7	July 27	August 1, 4	1	4.69	7.28	1.48	13.45	54.13	3.94	27.71
8	July 28	July 31	1	4.58	6.70	1.83	13.11	51.11	3.42	59.69
9	August 6	August 7	16	3.60	9.31	2.03	14.94	62.32	5.80	64.35
10	August 21	August 14, 21	15	2.58	12.30	2.83	17.71	69.45	8.54	64.78
11	September 2	August 14, 21	8	2.09	12.09	3.10	17.28	69.97	8.46	64.02
12	September 8	August 28	16	1.85	11.59	2.82	16.26	71.28	8.26	64.74
13		August 31	2	1.85	12.10	3.06	17.01	71.13	8.61	
14	September 18	September 4	9	1.84	12.61	3.33	17.78	70.92	8.94	60.24
15	September 24	September 9	3	1.51	13.99	3.36	18.86	74.18	10.38	59.41
16	October 2	September 14	8	1.42	14.01	3.19	18.62	75.24	10.54	61.53
17	October 22		6	1.25	15.03	4.28	20.56	73.06	10.98	59.24
18	November 5		9	1.34	12.95	3.72	18.01	71.35	9.24	64.87

TABLE No. 68.—NEEAZANA. BLYMYER & CO., CINCINNATI, OHIO.

1	July 19	July 12	1	5.18	1.12	1.60	7.90	14.18	.16	57.98
2	July 21	July 16	1	5.55	2.04	2.00	9.59	21.27	.43	56.89
3	July 23	July 20	2	5.23	2.54	1.33	9.10	27.91	.71	56.07
4	July 23	July 24	2	4.80	2.54	1.57	8.91	28.51	.72	53.25
5	July 26	July 28	1	4.11	4.01	1.79	9.91	40.46	1.62	56.49
6	July 27	July 31	1	4.63	4.91	2.36	11.90	41.26	2.03	59.35
7	July 28	August 4	1	4.86	6.53	2.08	13.47	48.48	3.17	59.32
8	July 30	August 8, 14	1	4.50	6.88	2.73	14.11	48.76	3.35	65.24
9	August 10	August 7, 14	21	3.57	9.80	2.48	15.85	61.83	6.06	64.81
10	August 22	August 21	6	2.66	12.05	3.03	17.74	67.93	8.19	64.74
11	August 27	August 28	4	2.77	11.76	3.00	17.53	67.08	7.89	64.12
12	August 30	September 4	8	2.54	11.84	3.18	17.56	67.43	7.98	62.81
13	September 7	September 11	7	2.26	13.06	1.95	17.27	75.62	9.88	61.49
14	September 10	September 18	8	2.28	13.07	2.48	17.83	73.30	9.58	62.80
15	September 20	September 25	4	2.02	13.04	2.91	17.97	72.57	9.46	56.35
16	September 30	October 1	12	1.77	13.76	3.51	19.04	72.27	9.94	58.43
17	October 20		6	1.53	14.65	4.70	20.88	70.17	10.28	59.40
18	November 4		9	1.84	13.13	3.10	18.07	72.66	9.54	64.65

TABLE No. 69.—NEW VARIETY. E. LINK, GREENEVILLE, TENN.

1	July 24	July 20	1	3.43	3.95	1.93	9.31	42.43	1.68	57.78
2	July 24	July 24	1	3.60	4.08	1.96	9.64	42.32	1.73	50.12
3	July 26	July 28	1	3.55	4.70	1.89	10.14	46.35	2.18	57.85
4	July 28	July 31	2	3.46	5.56	2.77	11.79	47.16	2.62	62.04
5	July 30	August 3	2	3.09	5.49	2.30	10.88	50.46	2.77	62.66
6	July 31	August 4	1	2.80	7.99	4.13	14.92	53.54	4.44	69.04
7	August 5	August 5	1	2.49	9.40	3.68	15.57	60.37	5.67	65.41
8	August 5	August 7	1	2.72	8.33	3.14	14.19	58.70	4.89	67.22
9	August 15	August 14	3	2.19	10.16	2.91	15.26	66.58	6.76	64.01
10	August 23	August 21	2	1.44	11.75	2.24	15.43	76.15	8.95	68.67
11	August 25	August 28	2	1.56	11.21	2.93	15.70	71.40	8.00	71.89
12	August 30	August 31	2	1.49	11.38	2.99	15.86	71.75	8.17	66.83
13	September 2	September 4	2	1.35	12.43	2.77	16.55	75.11	9.34	65.04
14	September 7	September 10	8	1.07	12.34	2.92	16.33	75.57	9.33	66.69
15	September 15	September 17	2	.94	15.57	3.64	18.15	74.77	10.15	60.91
16	September 28	September 25	6	1.19	12.75	3.15	17.09	74.60	9.51	64.40
17	October 21		4	.61	15.63	5.32	21.56	72.50	11.33	61.38
18	November 4		3	1.02	14.53	4.18	19.73	73.64	10.70	61.21

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

Table No. 70.—Chinese. D. Smith, Arlington, Va.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 20	July 24	1	4.51	2.15	1.67	8.33	25.81	.55	54.99
2	July 23	July 28	2	5.21	1.32	2.01	8.54	15.46	.20	50.40
3	July 23	July 31	1	5.04	1.59	1.70	8.33	19.09	.30	59.14
4	July 26	August 2	1	5.53	2.29	1.95	9.77	23.43	.54	59.78
5	July 27	August 3	1	4.64	4.62	2.45	11.71	39.45	1.82	57.69
6	July 30	August 4	1	4.70	4.58	2.24	11.52	39.76	1.82	63.95
7	July 31	August 5	1	4.52	5.41	2.51	12.44	43.49	2.35	68.18
8	August 2	August 7, 14	1	5.46	5.58	1.69	12.73	43.83	2.45	66.95
9	August 10	August 7, 14, 21	21	4.20	7.00	2.42	13.62	52.86	3.70	65.64
10	August 20	August 21	8	3.34	9.04	2.40	14.78	61.16	5.53	69.20
11	August 24	August 24	4	3.07	9.52	2.30	14.89	63.94	6.09	67.68
12	August 27	August 28	4	3.25	8.15	2.55	13.95	58.42	4.76	68.21
13	September 1	September 4	4	2.99	9.55	2.52	15.06	63.41	6.05	66.90
14	September 4	September 11	4	3.10	10.75	2.21	16.06	66.94	7.20	65.85
15	September 15	September 19	11	2.30	11.90	2.53	16.73	71.13	8.46	62.74
16	October 1	September 28	12	1.88	13.10	3.79	18.77	69.79	9.14	60.75
17	October 19		6	1.33	14.61	5.09	21.03	69.47	9.83	56.72
18	November 4		7	1.72	13.09	3.31	18.12	72.24	9.46	61.51

Table No. 71.—Wolf Tail. E. Link, Greeneville, Tenn.

1	July 30	July 28	1	2.82	4.19	2.20	9.21	45.49	1.91	62.50
2	July 30	July 31	1	5.19	1.24	2.46	8.89	13.95	.17	63.29
3	August 2	August 1	1	3.96	4.60	2.89	11.45	40.17	1.85	65.04
4	August 2	August 2	1	2.63	4.90	1.49	9.02	54.32	2.66	68.78
5	August 3	August 4	2	2.39	6.25	2.20	10.84	57.66	3.60	67.32
6	August 6	August 7	1	2.78	5.99	2.61	11.38	52.64	3.15	65.66
7	August 6	August 14, 21	1	2.28	6.79	2.68	11.75	57.79	3.92	68.24
8	August 16	August 14 21	3	2.31	10.28	2.99	15.58	65.98	6.78	61.53
9	August 19	August 28	2	1.87	10.08	2.87	14.82	68.02	6.86	65.90
10	August 26	August 31	2	1.74	10.78	2.23	14.75	73.08	7.88	63.70
11	September 2	September 4	4	1.34	10.29	2.86	14.49	71.01	7.31	64.24
12	September 8	September 11	2	1.30	8.73	3.11	13.14	66.44	5.80	63.62
13	September 18	September 18	2	1.11	11.96	3.56	16.63	71.92	8.60	60.27
14	September 23	September 25	2	1.12	12.54	2.17	15.83	79.22	9.93	58.27
15	October 2	October 2	5	1.27	13.46	2.89	17.62	76.39	10.28	61.92
16	October 20	October 20	4	.71	14.31	4.06	19.08	75.00	10.72	62.45

Table No. 72.—Gray Top. H. C. Sealey, Columbia, Tenn.

1	July 20	July 24	1	3.19	2.16	1.79	7.14	30.25	.65	51.54
2	July 23	July 28	1	3.53	3.75	1.80	9.08	41.30	1.55	51.08
3	July 26	July 31	1	3.37	4.80	1.59	9.76	49.18	2.36	61.42
4	July 27	August 2	1	3.30	4.08	2.95	10.33	39.50	1.61	57.70
5	July 30	August 4	2	2.67	6.81	3.49	12.97	52.51	3.58	60.54
6	July 31	August 5	1	3.30	5.81	2.58	11.69	49.70	2.89	68.68
7	August 2	August 6	1	2.89	8.72	2.92	14.53	60.01	5.23	67.02
8	August 5	August 7, 12	5	2.93	6.40	2.79	12.12	52.80	3.38	69.02
9	August 13	August 7, 14	21	2.39	8.61	2.63	13.63	63.17	5.44	67.39
10	August 24	August 17, 23	4	2.14	7.70	2.58	12.42	62.00	4.77	68.96
11	August 27	August 21, 28	4	2.16	7.71	2.58	12.45	61.93	4.77	70.04
12	September 1	August 29	4	2.17	7.22	2.44	11.83	61.03	4.41	62.37
13	September 4	September 4	4	2.14	8.87	2.61	13.62	65.12	5.78	61.70
14	September 9	September 10	4	1.70	9.61	2.46	13.77	69.79	6.71	68.44
15	September 17	September 17	4	1.81	11.64	3.18	16.63	70.00	8.15	65.68
16	September 28	September 28	16	1.33	13.09	3.66	18.08	72.40	9.48	62.02
17	October 20		7	1.30	15.00	4.29	20.59	72.85	10.93	58.73
18	November 6		6	1.43	12.40	3.04	16.87	73.50	9.11	65.56

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 73.—LIBERIAN. BLYMYER & CO., CINCINNATI, OHIO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 29	July 25	3	4.22	3.26	2.33	9.81	33.23	1.08	63.09
2	July 29	July 28	2	4.83	2.56	1.56	8.95	28.60	.73	65.13
3	July 29	July 31	2	4.97	2.93	2.05	9.95	29.45	.86	66.12
4	July 29	August 3	2	4.84	2.67	2.06	9.57	27.90	.74	71.29
5	August 1	August 6	2	4.21	5.38	2.35	11.94	45.06	2.42	65.80
6	August 3	August 9, 12	1	4.39	5.85	2.43	12.67	46.17	2.70	66.63
7	August 6	August 7, 16	1	4.19	5.94	2.07	12.20	48.69	2.87	67.67
8	August 11	August 14, 21	9	4.26	7.47	2.29	14.02	53.27	3.98	65.74
9	August 16	August 21, 28	4	3.55	8.33	2.52	14.40	57.85	4.82	67.94
10	August 23	August 28	6	3.35	9.14	2.69	15.18	60.21	5.50	63.88
11	August 29	September 4	8	2.96	9.51	2.72	15.19	62.61	5.95	67.19
12	September 3	September 8	4	2.74	10.71	2.45	15.90	67.36	7.21	66.18
13	September 12	September 13	5	2.34	12.76	2.88	17.98	70.97	9.06	62.81
14	September 20	September 18	4	1.90	13.18	3.07	18.15	71.62	9.44	62.37
15	September 25	September 24	5	2.33	12.94	3.27	18.54	69.80	9.03	61.81
16	October 2	October 2	8	1.61	13.85	3.64	19.10	72.51	10.04	61.08
17	October 21		7	1.47	15.85	4.48	21.80	69.04	10.95	61.26
18	November 7		7	1.74	13.12	3.95	18.81	55.29	7.25	64.87

TABLE No. 74.—LIBERIAN. W. H. LYTLE, YELLOW SPRINGS, OHIO.

1	July 21	July 25	1	4.42	2.33	1.48	8.23	28.31	.66	48.28
2	July 27	July 28	1	5.13	1.55	1.72	8.40	18.45	.29	63.57
3	July 27	July 31	1	5.11	2.01	1.96	9.08	22.14	.45	64.75
4	July 27	August 3	1	5.06	2.23	2.73	10.02	22.26	.50	60.16
5	August 1	August 4	2	4.78	4.76	1.89	11.43	41.64	1.98	66.86
6	August 4	August 5	2	4.30	6.74	1.92	12.96	52.01	3.51	63.56
7	August 7	August 7, 14	1	4.27	7.09	2.38	13.74	51.60	3.62	63.74
8	August 13	August 14, 21	13	4.20	7.68	2.31	14.19	54.12	4.16	65.27
9	August 20	August 21	4	3.53	8.67	2.69	14.95	57.99	5.03	66.36
10	August 24	August 28	4	3.68	8.38	2.42	14.48	56.49	4.73	68.19
11	August 26	September 4	4	3.32	9.18	2.79	15.29	60.04	5.51	66.72
12	September 1	September 8	4	3.09	9.61	2.61	15.31	62.77	6.03	65.88
13	September 3	September 12	4	2.93	10.56	2.06	15.55	67.91	7.17	66.06
14	September 8	September 16	8	2.53	11.80	2.23	16.56	71.26	8.41	66.72
15	September 18	September 21	8	2.24	12.50	3.03	17.77	70.34	8.79	59.61
16	September 30	September 26	12	2.11	12.97	3.64	18.72	69.28	8.99	62.12
17	October 25		8	1.47	14.39	4.59	20.45	70.37	10.12	61.78
18	November 3		8	2.03	13.00	3.95	18.98	68.50	8.91	62.42

TABLE No. 75.—OOMSEEANA. W. I. MAYES & CO., SWEET WATER, TENN.

1	July 27	July 27	1	4.75	1.35	2.67	8.77	15.39	.21	62.65
2	July 28	July 31	1	4.43	3.14	2.01	9.58	32.78	1.03	56.08
3	July 31	August 2	2	4.94	4.03	2.40	11.37	35.44	1.43	67.12
4	August 2	August 3	3	4.90	5.03	2.05	11.98	41.99	2.11	67.87
5	August 3	August 4	1	5.16	5.83	2.23	13.22	44.10	2.57	68.21
6	August 5	August 7	2	4.62	6.16	2.28	13.06	47.17	2.91	66.35
7	August 10	August 14, 21	6	4.61	7.35	2.14	14.10	52.13	3.83	65.40
8	August 14	August 14, 21	8	4.20	8.47	2.35	15.02	56.39	4.78	66.31
9	August 24	August 28	10	3.48	9.28	3.20	15.96	58.15	5.40	65.45
10	September 1	August 31	4	3.07	10.39	2.70	16.16	64.29	6.68	64.33
11	September 4	September 4	4	3.05	10.40	2.70	16.15	64.40	6.70	63.47
12	September 9	September 9	4	2.27	11.78	2.13	16.18	72.81	8.58	64.82
13	September 16	September 15	4	2.02	13.65	2.95	18.62	73.31	10.01	62.23
14	September 22	September 20	5	1.89	13.45	3.16	18.50	72.07	9.69	62.87
15	September 24	September 25	3	1.54	13.42	4.06	19.02	70.01	9.40	61.18
16	October 3	October 2	7	1.57	14.11	3.79	19.47	72.86	10.28	59.95
17	October 20		6	1.41	14.83	4.26	20.50	72.34	10.73	59.96
18	November 5		7	1.49	14.07	3.42	18.98	74.13	10.43	62.11

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE NO. 76.—SUMAC. W. POPE, ———, ALA.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 27	July 31	1	4.80	2.99	2.58	10.37	28.83	.86	41.64
2	July 27	August 2	1	5.07	3.11	2.39	10.57	29.42	.91	58.51
3	July 31	August 4	1	5.27	4.50	2.22	11.99	37.53	1.69	66.88
4	August 1	August 5	2	5.15	4.10	1.69	10.94	37.48	1.54	68.47
5	August 3	August 6	1	5.35	6.36	1.79	13.50	47.11	3.00	67.45
6	August 7	August 7	2	4.87	6.90	2.12	13.89	49.68	3.43	67.14
7	August 11	August 10	5	4.87	7.35	1.78	14.00	52.50	3.86	66.01
8	August 15	August 14	8	4.43	8.34	2.49	15.26	54.65	4.56	66.29
9	August 22	August 21	4	3.71	9.82	2.38	15.91	61.72	6.06	66.15
10	August 27	August 28	4	3.63	9.72	2.64	15.99	60.79	5.91	61.56
11	September 1	August 31	4	3.29	9.81	2.67	15.77	62.21	6.10	63.72
12	September 4	September 4	4	3.18	10.01	2.74	15.93	62.84	6.29	64.72
13	September 9	September 9	4	3.30	8.82	2.02	14.14	62.38	5.50	65.90
14	September 19	September 16	7	2.97	12.12	3.01	18.10	66.96	8.12	61.38
15	September 24	September 24	4	1.79	13.30	3.98	19.07	69.69	9.27	62.02
16	October 4	October 4	8	1.81	13.32	3.89	19.02	70.03	9.33	60.02
17	October 20		6	1.53	15.16	4.47	21.16	71.60	10.85	60.27
18	November 4		6	1.60	13.18	4.61	19.39	67.46	8.89	60.52

TABLE NO. 77.—MASTODON. D. W. AIKEN, COKESBURY, S. C.

1	July 26	July 16, 31	1	2.53	4.19	3.02	9.74	43.02	1.80	59.56
2	July 26	August 7, 14	1	3.49	4.60	2.06	10.15	45.32	2.08	54.43
3	July 26	August 7, 14	1	4.63	2.72	1.64	8.99	31.03	.84	61.81
4	August 11	August 21	3	3.75	5.00	2.08	10.83	46.17	2.31	67.15
5	August 15	August 23	4	3.76	7.84	1.67	13.27	59.08	4.63	66.49
6	August 21	August 24	4	3.67	7.04	1.87	12.58	55.96	3.94	69.06
7	August 26	August 26	4	2.99	9.48	2.30	14.77	64.18	6.08	66.88
8	August 28	August 28	2	2.17	9.58	2.62	14.37	66.67	6.39	57.49
9	September 2	August 31	2	2.34	9.61	2.43	14.38	66.83	6.42	66.46
10	September 7	September 4	8	2.84	9.68	2.70	15.22	63.60	6.16	67.31
11	September 7	September 10	8	1.09	9.80	2.73	13.62	71.95	7.05	65.68
12	September 14	September 15	2	1.40	7.98	3.49	12.87	62.00	4.95	67.56
13	September 22	September 20	2	2.24	11.93	2.31	16.48	72.39	8.64	64.04
14	September 23	September 26	2	2.30	9.28	2.52	14.10	65.82	6.11	67.51
15	September 25	October 2	2	2.02	10.04	2.48	14.54	69.05	6.93	66.31
16	October 4	October 9	4	1.37	13.58	3.04	17.99	75.49	10.25	61.16
17	October 21		3	1.32	16.05	4.67	22.04	72.82	11.69	57.60
18	November 9		2	2.79	12.68	3.28	18.75	67.63	8.58	64.95

TABLE NO. 78.—IMPHEE. D. W. AIKEN, COKESBURY, S. C.

1	July 30	July 31	1	6.28	4.08	1.81	12.17	33.53	1.37	64.21
2	July 31	August 1	1	6.33	4.43	2.60	13.36	33.16	1.47	64.30
3	August 2	August 2	1	5.56	4.79	2.71	13.06	36.68	1.76	68.61
4	August 2	August 3	1	5.44	5.37	3.64	14.45	37.16	2.00	68.13
5	August 4	August 5	2	5.69	5.52	2.34	13.55	40.74	2.25	66.13
6	August 16	August 7	3	4.02	8.03	3.09	15.14	53.04	4.26	64.09
7	August 19	August 10	2	4.58	8.09	3.25	15.92	50.82	4.11	65.21
8	August 19	August 14, 21	2	4.57	8.81	3.08	16.46	53.52	4.72	60.03
9	August 24	August 21, 28	4	4.16	9.62	2.68	16.46	58.44	5.62	63.72
10	August 30	August 28	2	4.14	9.49	2.53	16.16	58.73	5.57	64.14
11	September 2	September 4	2	3.42	9.88	2.97	16.27	60.73	6.00	64.27
12	September 8	September 11	2	3.37	11.15	1.77	16.29	68.45	7.63	65.64
13	September 15	September 18	2	2.49	11.87	3.84	18.20	65.22	7.74	65.16
14	September 23	September 25	2	2.44	12.19	3.17	17.80	68.48	8.35	60.45
15	September 25	October 1	2	2.13	12.89	3.53	18.55	69.49	8.96	54.38
16	October 7	October 7	2	2.14	13.02	2.82	17.98	72.41	9.43	63.28
17	October 21		4	1.58	15.31	4.45	21.34	71.74	10.98	61.08
18	November 5		3	1.57	14.29	3.57	19.43	73.54	10.51	60.65

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE No. 79.—NEW VARIETY. J. W. H. SALLE, STRAFFORD, MO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 26	July 26	1	5.44	2.30	2.30	10.04	22.91	.53	59.74
2	July 26	July 29	1	5.26	1.86	1.50	8.62	21.58	.40	58.70
3	July 26	July 31	1	5.32	1.86	1.58	8.76	21.24	.40	60.02
4	July 30	August 3	1	5.03	2.93	1.77	9.73	30.11	.88	65.55
5	July 31	August 7, 14	2	4.95	3.32	2.30	10.57	31.41	1.04	66.92
6	August 3	August 7, 14	1	4.77	5.89	1.92	12.58	46.82	2.76	69.36
7	August 6	August 21	1	4.96	4.51	2.01	11.48	39.29	1.77	77.81
8	August 10	August 24	9	4.40	6.86	2.15	13.41	51.16	3.51	68.04
9	August 20	August 28	6	3.40	9.47	2.23	15.10	62.62	5.93	65.19
10	August 24	September 4	8	4.01	7.77	1.87	13.65	56.92	4.42	61.74
11	August 28	September 10	4	3.80	9.07	2.58	15.45	58.71	5.33	61.60
12	September 2	September 16	4	3.71	6.47	2.19	12.37	52.30	3.38	66.24
13	September 21	September 22	4	3.24	9.74	2.77	15.75	61.84	6.02	62.76
14	September 23	September 28	4	2.98	10.98	2.65	16.61	66.10	7.26	62.72
15	September 25	October 4	4	2.57	12.39	3.01	17.97	69.00	8.55	59.88
16	October 5	October 11	10	2.56	12.55	2.90	18.01	69.68	8.74	60.17
17	October 24		5	2.02	13.99	3.73	19.74	70.88	9.92	58.59
18	November 1		6	2.15	12.12	3.14	17.41	69.60	8.44	55.75

TABLE No. 80.—SUMAC. J. H. WIGHTON, MOUNT OLIVE, ALA.

1	August 2	August 2	1	6.67	3.85	2.11	12.63	30.48	1.17	65.81
2	August 2	August 4	1	6.07	3.70	2.10	11.87	31.17	1.15	65.27
3	August 2	August 6	1	6.48	3.64	2.14	12.26	29.69	1.08	68.20
4	August 4	August 7	2	5.45	4.98	2.52	12.95	38.46	1.92	64.50
5		August 8	2	5.07	6.70	2.69	14.46	46.33	3.10	
6	August 19	August 10	2	5.11	7.13	2.56	14.80	48.18	3.44	64.09
7	August 19	August 12	2	4.76	7.63	3.07	15.46	49.35	3.77	65.68
8	August 19	August 14	2	4.27	8.89	2.55	15.71	56.27	5.00	64.14
9	August 24	August 21	4	3.39	9.67	2.33	15.39	62.83	6.08	64.45
10	August 30	August 28	2	4.07	9.21	2.33	15.61	59.00	5.43	64.72
11	September 2	August 31	2	4.09	8.50	2.40	14.99	56.70	4.82	67.13
12	September 7	September 4	2	3.39	10.07	2.53	15.99	62.98	6.34	65.40
13	September 15	September 12	2	2.98	10.31	4.43	17.72	58.18	6.00	64.47
14	September 24	September 22	4	2.55	12.43	3.23	18.21	68.26	8.48	59.56
15	October 7	October 5	1	1.71	11.26	5.94	18.91	59.55	6.71	59.90
16	October 20	October 20	4	2.08	14.93	3.68	20.69	72.11	10.77	62.38
17	November 9		2	1.52	13.86	3.11	18.49	74.95	10.39	59.30

TABLE No. 81.—HONDURAS. ARSENAL, WASHINGTON, D. C.

1	July 23	July 19	1	3.55	1.31	2.32	7.18	18.24	.24	42.32
2	July 26	July 24	1	3.28	1.99	1.78	7.05	28.23	.56	49.01
3	July 26	July 28	1	3.16	4.27	2.10	9.53	44.81	1.91	48.94
4	July 26	July 31, August 7	1	3.90	3.82	2.79	10.51	36.35	1.39	40.75
5	July 30	August 14	1	3.08	5.60	2.34	11.02	50.82	2.85	64.50
6	August 2	August 7, 14, 21	1	2.83	5.77	2.93	11.53	50.04	2.89	56.00
7	August 6	August 21	1	5.13	3.08	2.02	10.23	30.11	.93	68.55
8	August 10	August 28	2	2.15	6.27	2.48	10.90	57.52	3.61	61.34
9	August 17	September 4	12	2.49	6.85	2.55	11.89	57.61	3.95	57.55
10	August 25	September 10	4	1.87	7.17	2.94	11.98	59.85	4.29	49.95
11	August 28	September 15	3	3.20	5.69	2.44	11.33	50.22	2.86	64.21
12	September 4	September 20	8	1.70	5.72	3.12	10.54	54.27	3.10	47.08
13	September 14	September 25	4	3.81	5.79	1.86	11.46	50.52	2.93	62.43
14	September 21	September 30	4	1.82	10.30	3.08	15.20	67.76	6.98	48.78
15	September 24	October 6	8	2.73	9.24	2.86	14.83	62.31	5.76	60.79
16	October 3	October 14	9	2.31	9.63	3.01	14.95	64.41	6.20	58.51
17	October 25		6	2.16	12.11	3.39	17.66	68.57	8.30	60.29
18	October 29		6	2.17	9.30	3.39	14.86	62.58	5.82	55.75

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE NO. 82.—HONEY CANE. J. H. CLARK, PLEASANT HILL, LA.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	July 30	August 2	1	4.72	2.74	2.00	9.46	28.96	.79	66.15
2	July 30	August 7	1	4.61	2.38	1.67	8.66	27.48	.65	66.69
3	August 5	August 14	2	4.57	3.63	2.25	10.45	34.74	1.26	70.31
4	August 10	August 16	5	4.64	2.96	1.91	9.51	31.12	.92	66.41
5	August 16	August 18	11	4.46	4.52	1.83	10.81	41.81	1.89	69.47
6	August 21	August 21	4	4.36	5.89	1.70	11.95	49.29	2.90	70.12
7	August 25	August 24	4	3.99	6.60	1.60	12.19	54.14	3.57	69.27
8	August 27	August 28	4	3.83	7.14	2.41	13.38	53.36	3.81	66.35
9	September 2	August 31	4	3.73	7.77	1.58	13.08	59.40	4.62	67.53
10	September 12	September 4	8	3.34	8.70	1.98	14.02	62.05	5.40	68.84
11	September 18	September 9	8	3.08	9.29	1.94	14.31	64.92	6.03	65.30
12	September 23	September 15	4	4.82	11.29	1.86	15.97	70.70	7.98	66.28
13	September 25	September 21	4	3.30	8.85	2.13	14.28	61.97	5.48	66.16
14	September 28	September 28	4	2.94	9.29	2.14	14.37	64.65	6.01	64.02
15	October 7	October 6	5	2.10	11.78	2.87	16.75	70.33	8.28	64.71
16	October 18	October 16	4	1.63	12.81	3.56	18.00	71.17	9.12	64.25
17	October 28		5	1.97	12.91	3.58	18.46	69.93	9.03	64.57
18	November 11		4	2.61	9.65	2.75	15.01	64.29	6.20	69.67

TABLE NO. 83.—SPRANGLE TOP. W. POPE, ———, ALA.

1	August 9	August 7	6	4.78	3.18	1.63	9.59	33.16	1.05	69.98
2	August 15	August 11	9	4.75	2.83	2.00	9.58	29.54	.84	67.59
3	August 19	August 14	5	4.77	3.78	1.59	10.14	37.28	1.41	70.71
4	August 25	August 18	4	5.59	4.21	1.71	11.51	36.58	1.54	69.67
5	August 28	August 21	4	5.26	4.58	1.81	11.65	39.31	1.80	69.67
6	August 30	August 23	4	4.68	6.41	1.93	13.02	49.39	3.17	71.44
7	August 30	August 25	4	4.64	6.58	2.02	13.24	49.70	3.27	69.49
8	August 30	August 28	4	4.25	7.22	2.69	14.16	50.99	3.68	69.76
9	August 30	September 4	4	4.10	7.92	2.18	14.20	55.77	4.42	69.12
10	September 4	September 11	8	3.76	8.14	1.82	13.72	59.33	4.83	70.34
11	September 14	September 17	4	4.04	6.78	1.83	12.65	53.60	3.63	65.44
12	September 21	September 23	4	4.03	8.53	1.60	14.16	60.24	5.14	64.76
13	September 24	September 29	7	2.68	9.92	2.43	15.03	66.00	6.55	65.09
14	September 29	October 5	5	2.40	11.25	2.55	16.20	69.45	7.81	63.49
15	October 9	October 11	4	3.28	8.96	2.29	14.53	61.67	5.53	65.86
16	October 21	October 17	3	2.86	12.03	3.73	18.62	64.61	7.77	67.79
17	October 23		3	2.23	12.62	3.37	18.24	69.19	8.73	64.22
18	November 6		5	2.28	11.19	2.74	16.21	69.03	7.73	68.19

TABLE NO. 84.—HONDURAS. E. LINK, GREENEVILLE, TENN.

1	August 18	August 14	4	4.36	3.05	1.65	9.06	33.66	1.03	67.52
2	August 23	August 18	4	4.43	5.14	1.47	11.04	46.56	2.39	68.05
3	August 25	August 21	4	4.78	3.60	1.50	9.88	36.44	1.31	65.25
4	August 28	August 24	4	4.68	4.70	1.68	11.06	42.50	2.00	67.33
5	September 2	August 28	4	5.00	4.57	1.52	11.09	41.21	1.88	69.89
6	September 6	August 31	4	3.57	8.22	1.95	13.74	59.83	4.92	63.41
7		September 4		4.13	7.09	1.96	13.18	53.79	3.81	
8	September 14	September 11	4	4.28	6.78	2.12	13.18	51.44	3.49	69.89
9	September 21	September 18	4	3.65	8.77	2.23	14.65	59.86	5.25	64.60
10	September 23	September 24	4	3.47	9.08	1.91	14.46	62.79	5.70	65.54
11	September 26	October 1	5	3.02	9.74	2.54	15.30	63.66	6.20	66.94
12	October 10	October 9	4	1.80	12.83	2.95	17.58	72.98	10.06	65.06
13	October 19	October 19	4	2.35	11.58	3.52	17.45	66.36	7.68	65.60
14	October 29	October 29	3	3.38	11.97	2.84	18.19	65.81	7.88	64.22
15	November 4	November 4	2	4.30	10.98	3.43	18.71	58.69	6.44	61.45
16	November 13	November 13	1	3.65	10.31	2.00	15.96	64.60	6.66	67.87

AVERAGES OF EACH STAGE OF EACH VARIETY—Continued.

TABLE NO. 85.—HONEY TOP OR TEXAS CANE. ——— ———, BRUSSELS, MO.

Stage.	Average date of estimation.	Observed date of reaching stage.	No. of determinations.	Glucose.	Sucrose.	Solids not sugar.	Total solids.	Exponent.	Available sucrose.	Average juice.
				Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Pr. ct.*	*Pr. ct.*
1	August 10	August 7	6	4.86	2.03	1.78	8.67	23.41	.48	69.07
2	August 16	August 14	11	4.74	2.67	1.76	9.17	29.12	.78	70.21
3	August 21	August 17	4	4.74	3.61	1.34	9.69	37.25	1.34	70.55
4	August 25	August 19	4	4.81	4.29	1.29	10.39	41.29	1.77	71.11
5	August 28	August 21	4	4.69	4.48	1.53	10.70	41.87	1.88	71.11
6	August 30	August 23	4	4.80	6.17	2.00	12.97	47.57	2.93	68.95
7	August 30	August 25	4	4.15	6.64	1.97	12.76	52.04	3.46	69.69
8	August 30	August 28	4	4.28	6.48	2.07	12.83	50.51	3.27	70.58
9	September 1	September 4	8	4.19	7.16	1.75	13.10	54.66	3.91	69.51
10	September 6	September 9	4	4.09	6.73	1.88	12.70	52.99	3.57	70.61
11	September 16	September 14	8	4.04	6.78	2.39	13.21	51.32	3.45	68.37
12	September 21	September 20	4	3.96	7.64	1.90	13.50	56.59	4.32	68.28
13	September 24	September 25	8	3.16	9.71	2.50	15.37	63.18	6.13	64.95
14	September 28	September 30	4	2.92	10.25	2.49	15.66	65.45	6.71	65.56
15	October 7	October 7	5	2.91	11.22	2.67	16.80	66.79	7.49	66.19
16	October 18	October 15	3	1.96	12.77	4.07	18.80	67.93	8.67	63.89
17	October 23		4	2.26	13.18	3.77	19.21	68.61	9.04	65.46
18	November 4		6	3.38	9.19	2.55	15.12	60.78	5.59	69.83

TABLE NO. 86.—HONDURAS. L. BRANDE, MAYERSVILLE, TEX.

1	August 12	August 7	5	4.61	2.66	1.62	8.89	29.92	.80	68.27
2	August 16	August 10	5	4.84	3.09	1.72	9.65	32.02	.99	70.20
3	August 20	August 13, 17	5	4.55	3.92	1.39	9.86	39.76	1.56	66.39
4	August 25	August 14, 21	4	4.87	4.15	1.61	10.63	39.04	1.62	70.84
5	August 28	August 22	4	5.03	5.45	1.77	12.25	44.49	2.42	68.23
6	September 2	August 28	4	4.79	5.28	1.55	11.62	45.44	2.40	64.92
7	September 6	September 4	4	4.25	7.24	1.96	13.45	53.83	3.90	68.19
8	September 10	September 10	8	4.09	7.26	2.46	13.81	52.57	3.82	67.33
9	September 14	September 16	8	3.78	8.34	1.72	13.84	60.26	5.03	66.61
10	September 23	September 22	4	3.25	8.90	1.59	13.74	64.77	5.76	65.18
11	September 25	September 27	4	3.04	9.95	2.51	15.50	64.19	6.39	65.51
12	September 28	October 3	4	3.13	8.47	1.92	13.52	62.65	5.31	66.24
13	October 12	October 9	5	2.79	10.91	2.69	16.39	66.57	7.26	67.43
14	October 11	October 16	3	1.66	11.29	3.50	16.45	68.63	7.75	70.30
15	October 24	October 24	4	2.39	12.05	2.93	17.37	69.37	8.36	62.88
16	November 7	November 7	5	2.84	11.07	2.89	16.80	65.89	7.29	69.63

TABLE NO. 87.—"SUGAR CANE." C. E. MILLER, EFFINGHAM, ILL.

1	July 13	July 3	1	3.94	1.71	1.09	6.74	25.37	.43	58.30
2	July 16	July 8	1	4.36	2.30	1.05	7.71	29.70	.68	44.37
3	July 17	July 12	1	3.92	2.35	1.87	8.14	28.87	.68	51.61
4	July 17	July 16	1	4.41	3.18	1.58	9.17	34.68	1.10	47.60
5	July 20	July 19	1	3.73	5.97	1.96	11.66	51.20	3.06	54.99
6	July 21	July 22	1	3.23	5.24	2.46	10.93	47.94	2.51	56.25
7	July 23	July 25	1	3.38	6.96	1.77	12.11	57.47	4.00	57.29
8	July 23	July 28	1	4.12	5.94	2.35	12.41	47.86	2.84	63.29
9	July 27	July 31	3	3.26	8.06	2.45	13.77	58.51	4.72	59.02
10	August 3	August 7	9	2.67	8.20	2.69	13.56	60.47	4.96	62.14
11	August 8	August 12, 16	2	2.60	9.31	1.99	13.90	66.98	6.24	65.33
12	August 13	August 14, 21	4	2.13	8.37	2.62	13.12	63.80	5.34	63.87
13	August 18	August 20	7	2.39	7.14	3.42	12.95	55.14	3.94	65.94
14	August 21	August 24	4	3.06	3.53	2.33	8.92	39.57	1.40	67.05
15	August 25	August 28	4	3.22	7.19	2.22	12.63	56.93	4.09	66.52
16	September 9	September 4	24	3.00	8.06	2.29	13.35	60.37	4.87	64.63
17	October 7		17	2.70	10.14	3.22	16.06	63.14	6.40	61.44
18	November 8		6	2.39	10.47	3.13	15.99	65.48	6.86	63.05

GENERAL AVERAGES FOR EACH STAGE.

The following table (No. 88), deduced from the results of 2,739 analyses of sorghum canes, presents, in a condensed form, a very correct idea as to the actual development of the cane itself and of the changes in the juice.

Among the points of most practical interest may be mentioned the following:

1st. The changes in height, weight, diameter, and total and stripped weight are not sufficiently important to require comment.

2d. The percentage of juice extracted from the stripped stalks gradually increases up to the eleventh stage, then slowly diminishes until the close of the season.

3d. The specific gravity of the juice, the percentage of sucrose, the percentage of solids not sugar, and the exponent regularly increase (with but one or two exceptions) until the close of the season; and the percentage of glucose in the juice as steadily decreases from the first.

It will here be noticed that the sucrose increases in the juice much more rapidly than do the solids not sugar; and this fact taken together with the steady decrease of glucose is the explanation of the equally steady increase of the exponent, which represents the comparative purity of the juices.

4th. It is stated in the discussion of the table of specific gravities (Table 89) that the proper stage in the development of sorghum at which to begin the manufacture of sugar is when the juice has the specific gravity 1.066, corresponding with the exponent 70.

Confirmation of this statement is here furnished by this table, and we further see that this specific gravity (1.066) and exponent (70.15) are attained when the cane reaches what has been named the "13th stage."

By reference to the table describing these stages it appears that the seed of the plant should be quite fully developed and hard.

By these three indications every cane-grower can judge for himself as to the proper time to work up his sorghum crop, in order that he may obtain satisfactory results.

At the same time an analysis of the juice is always valuable and should be made when practicable.

TABLE No. 88.—*General average for the stages, as determined from the results of the same stage for all varieties of sorghum.*

Stages.	Average length	Diameter.	Unstripped weight.	Stripped weight.	Per cent. of juice.	Specific gravity.	Per cent. glucose.	Per cent. sucrose.	Per cent. solids.	Exponent.	Per cent. available sucrose.	Number of juices analyzed.
1	7.5	0.9	1.93	1.34	59.06	1.031	4.29	1.76	1.75	22.56	0.40	58
2	8.5	.9	1.93	1.46	59.60	1.036	4.45	2.96	1.86	31.93	.95	69
3	8.8	.9	1.78	1.39	59.67	1.037	4.50	3.51	1.78	35.85	1.26	57
4	9.1	.8	1.83	1.44	61.61	1.041	4.34	4.34	1.91	40.98	1.78	70
5	9.3	.9	1.96	1.55	63.05	1.045	4.15	5.13	1.92	45.80	2.35	75
6	9.7	.9	2.02	1.60	62.79	1.050	3.99	6.50	2.45	50.23	3.26	62
7	9.7	.9	2.11	1.55	63.85	1.052	3.86	7.38	2.19	54.95	4.06	70
8	9.3	1.0	2.10	1.63	65.68	1.055	3.83	7.69	2.37	55.36	4.26	111
9	8.8	.9	1.87	1.40	64.88	1.058	3.19	8.95	2.42	61.47	5.50	266
10	8.9	.9	1.81	1.38	64.83	1.061	2.60	9.98	2.50	66.18	6.60	217
11	9.1	.9	1.94	1.48	65.02	1.063	2.35	10.66	2.72	67.77	7.22	166
12	9.0	.9	1.81	1.37	63.39	1.065	2.07	11.18	2.83	69.53	7.77	170
13	9.1	.9	1.86	1.34	62.99	1.066	2.03	11.40	2.82	70.15	8.00	183
14	8.9	.9	1.82	1.32	61.72	1.067	1.88	11.76	2.96	70.84	8.33	191

TABLE No. 88.—*General average for the stages as determined from the results of the same stage for all varieties of sorghum*—Continued.

Stages.	Average length.	Diameter.	Unstripped weight.	Stripped weight.	Per cent. of juice.	Specific gravity.	Per cent. glucose.	Per cent. sucrose.	Per cent. solids.	Exponent.	Per cent. available sucrose.	Number of juices analyzed.
15	8.9	.9	1.81	1.32	60.45	1.067	1.81	11.69	3.15	70.21	8.21	217
16	8.7	.9	1.73	1.22	61.20	1.070	1.64	12.40	3.32	71.43	8.86	339
17	7.7	.9	1.69	1.25	60.17	1.078	1.56	13.72	4.07	70.90	9.73	197
18	8.5	.9	1.44	1.15	62.09	1.069	1.85	11.92	3.42	69.34	8.27	191
19*	8.5	1.0	1.81	1.53	56.04	1.089	3.09	12.08	3.62	64.70	7.82	30

* This stage (No. 19) was after the cane had ceased growing, late in the season; it was determined from canes Nos. 23 and 24 only.

EXPLANATION OF GRAPHICAL PLATES.

It has been found that graphical representations of the results of analyses tend to make more clear the changes which occur in the growing plant. Accordingly, the following plates have been carefully prepared; they are based on the data given in tables 51 to 87, which have just been explained.

It will be noticed that each square represents one day when viewed in a horizontal direction, while it equals one-fifth of 1 per cent. when examined vertically.

Three varieties of canes are exhibited and compared on each chart, and they are distinguished by lines of different colors; the average content of sucrose, glucose, and solids not sugar in the juices, is given for each cane, and distinguished by the different character of the lines.

Each stage in the development of the plant is shown by a straight line, and each angle marks the boundary between two stages; by reference to the date just above each angle, it will be seen at what time each particular stage began and ended for each plant.

It will here be noticed that the earlier stages extend over a very short period, while those stages in which the plant contains a considerable amount of sugar are much longer. This remark applies with especial force to the best varieties of cane, which appear among the first plates.

After the plates representing the history of the individual canes, comes a single plate, based on table No. 88, which shows the average for all varieties in each stage. From it may be gained a very truthful idea of the composition and changes of sorghum juices during growth.

EXPLANATION OF SPECIFIC GRAVITY TABLE.

The following table is one of considerable practical value to those engaged in sugar making from sorghum. By reference to it the sugar-boiler can determine quite accurately the composition of any juice of which he knows the specific gravity. These figures are averages drawn from all the analyses recorded, and although the different canes differ somewhat among themselves in the composition of the juice for the same specific gravity, still these differences are not so great as to be of much practical importance.

In examining these tables it should be remembered that the results are valuable in proportion to the number of analyses from which each

figure has been derived; therefore, while the figures derived from a small number of analyses are true for the particular canes examined, it is probable that a larger number of determinations would somewhat modify the results. If only those figures are examined which are based on ten or more analyses, it will be seen that the recorded results are very seldom exceptional.

Among other points shown by this table, the following are important:

1st. The amount of juice obtained seldom falls below 60 per cent. of the weight of the stripped stalks; this percentage does not vary greatly throughout the season.

2d. The amount of crystallizable sugar (sucrose) in the juice is at first little over 1 per cent., but it regularly increases with the increase of specific gravity. No one relationship is more evident than this close correspondence between the increase of specific gravity and percentage of sucrose in the juice; the average increase of sucrose for an increase of .001 in specific gravity (between 1.030 and 1.086) is 0.233 per cent. The following table shows the average increase of cane sugar corresponding with an increase of .001 *in specific gravity of the juice:*

Between 1.030—1.039=.164 per cent. sucrose.
Between 1.040—1.049=.167 per cent. sucrose.
Between 1.050—1.059=.229 per cent. sucrose.
Between 1.060—1.069=.250 per cent. sucrose.
Between 1.070—1.079=.142 per cent. sucrose.
Between 1.080—1.086=.164 per cent. sucrose.

3d. It is a noticeable fact that the "solids not sugar" increase regularly and with almost the same rapidity that the glucose diminishes. Thus, for the specific gravities between 1.030 and 1.086 the average percentage of glucose is 2.84, and of solids not sugar 2.71, while the actual loss of glucose is 2.76 per cent., and the actual gain of solids not sugar is 2.77 per cent. From the small number of ash determinations (34) it appears that the average percentage of ash in sorghum juice amounts to 1.07 per cent.; hence it appears that a loss of 2.76 per cent. of glucose is apparently counterbalanced by a gain of 1.70 per cent. of organic solids not sugar, the ash varying but slightly. These figures are subject to future revision, when a much larger number of ash determinations may render it possible to draw conclusions with greater safety.

One point, however, seems to be strongly suggested, namely, that the decrease in glucose bears a much closer relationship to the increase of organic solids not sugar than to the increase of crystallizable sugar. In other words, it seems at least possible that the commonly accepted idea that cane sugar is formed in plants only through the intervention of glucose may be a mistaken idea. This point is a very interesting one and worthy of careful study in the future.

4th. The percentage of total solids regularly increases, with a few exceptions, with the increase of specific gravity; the average increase for each gain of .001 in specific gravity is 0.17 per cent of total solids.

5th. Experience has shown that the percentage of crystallizable sugar in the total solids of the juice should exceed 70, in order that good results may be had.

An inspection of this table indicates that these juices attained that percentage (see column headed "Exponent") when the specific gravity 1.066 was reached, and this exponent was maintained, and even exceeded, until the specific gravity 1.086 was passed. After this the exponents are somewhat variable, because specific gravities above 1.086 were not attained until quite late in the season, when the plants had

Nº 1. Early Amber. (D. Smith.)

Nº 2. Early Amber. (Plant Seed Co.)

Nº arly Golden. (A.B. Swain.)

June | July | August | September | October | November

Average Sucrose in Sugar Cane.

Average Sucrose in Sugar Beets.

Average Glucose in Sugar Cane.

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mark. Del.

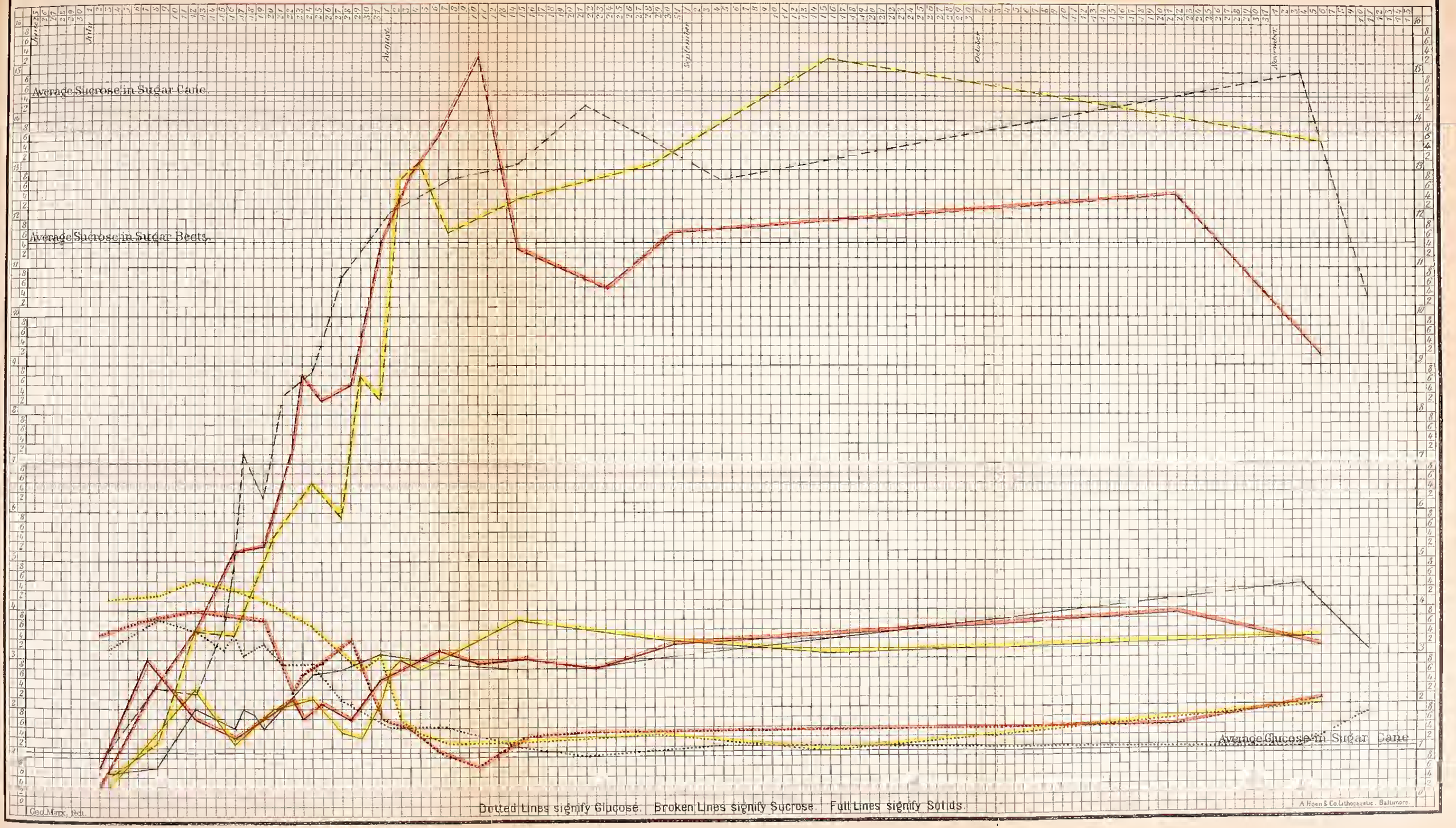
A. Hoen & Co. Lithocaustic Baltimore

arly Amber. (Evans.)

No 4. Golden Syrup. (W.H.Lytle.)

No 5. White Liberian. (D. Smith.)

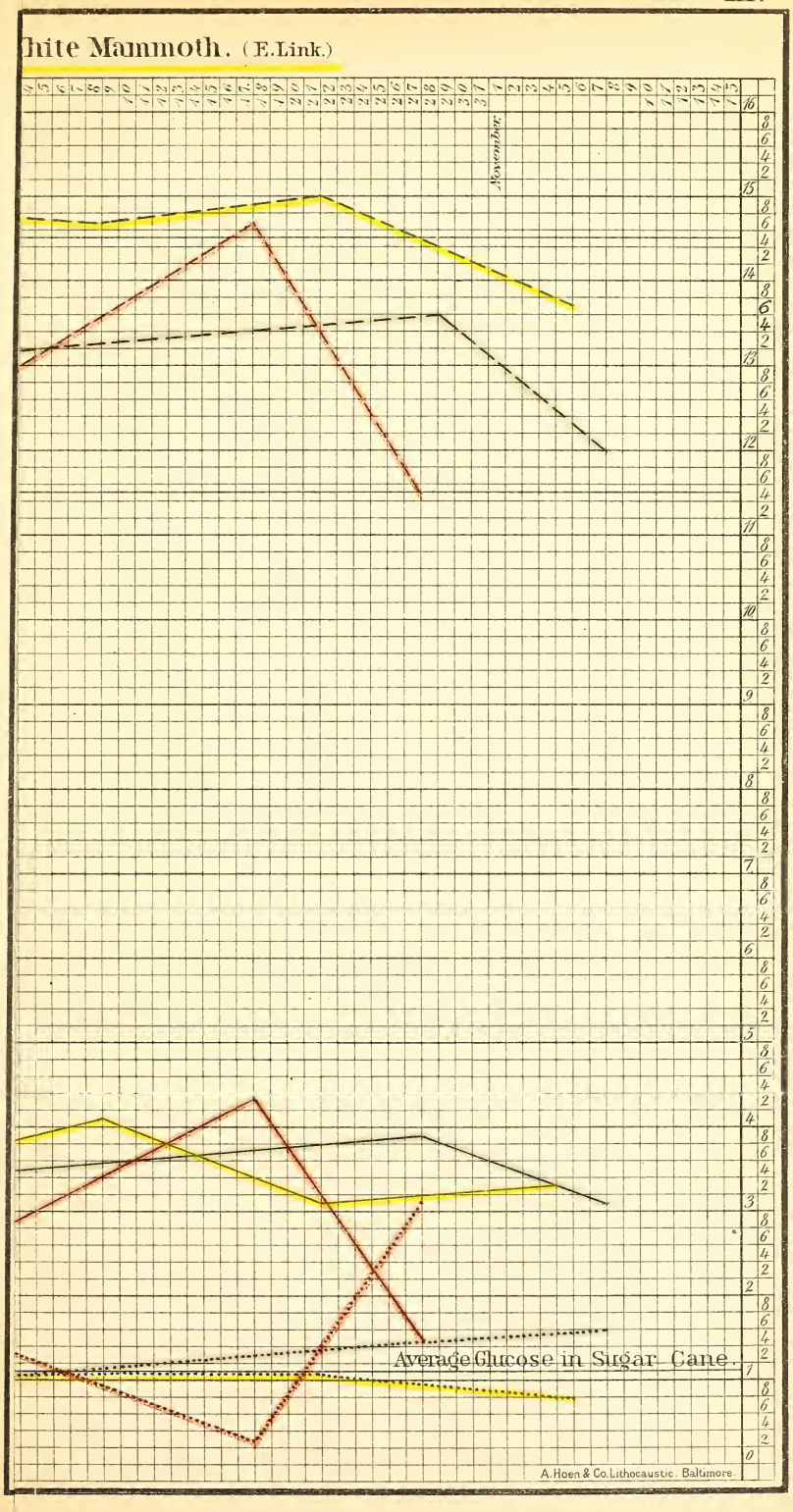
No 6. Early Amber. (Evans.)



Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mertz, del.

A. Hoen & Co. Lithographers. Baltimore.


hite Mammoth. (E.Link.)
November
Average Glucose in Sugar Cane.
A. Hoen & Co. Lithocaustic. Baltimore.

Nº 7. Black Top. (Aiken.)

Nº 8. African. (W.E.Parks.)

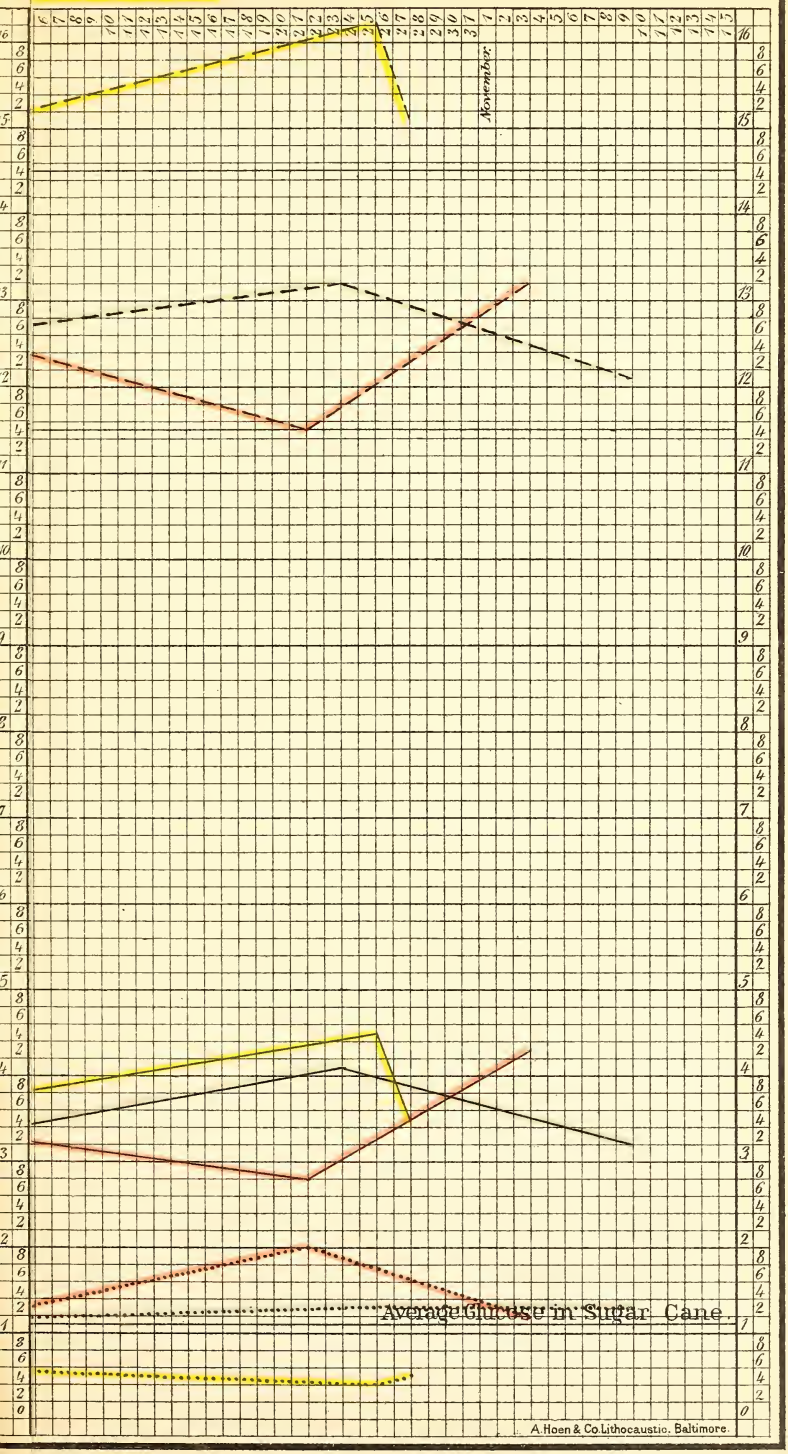
Nº 9. White Mammoth. (E.Link.)

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo Mayr. Del.

A. Hoen & Co. Lithocaustic Baltimore

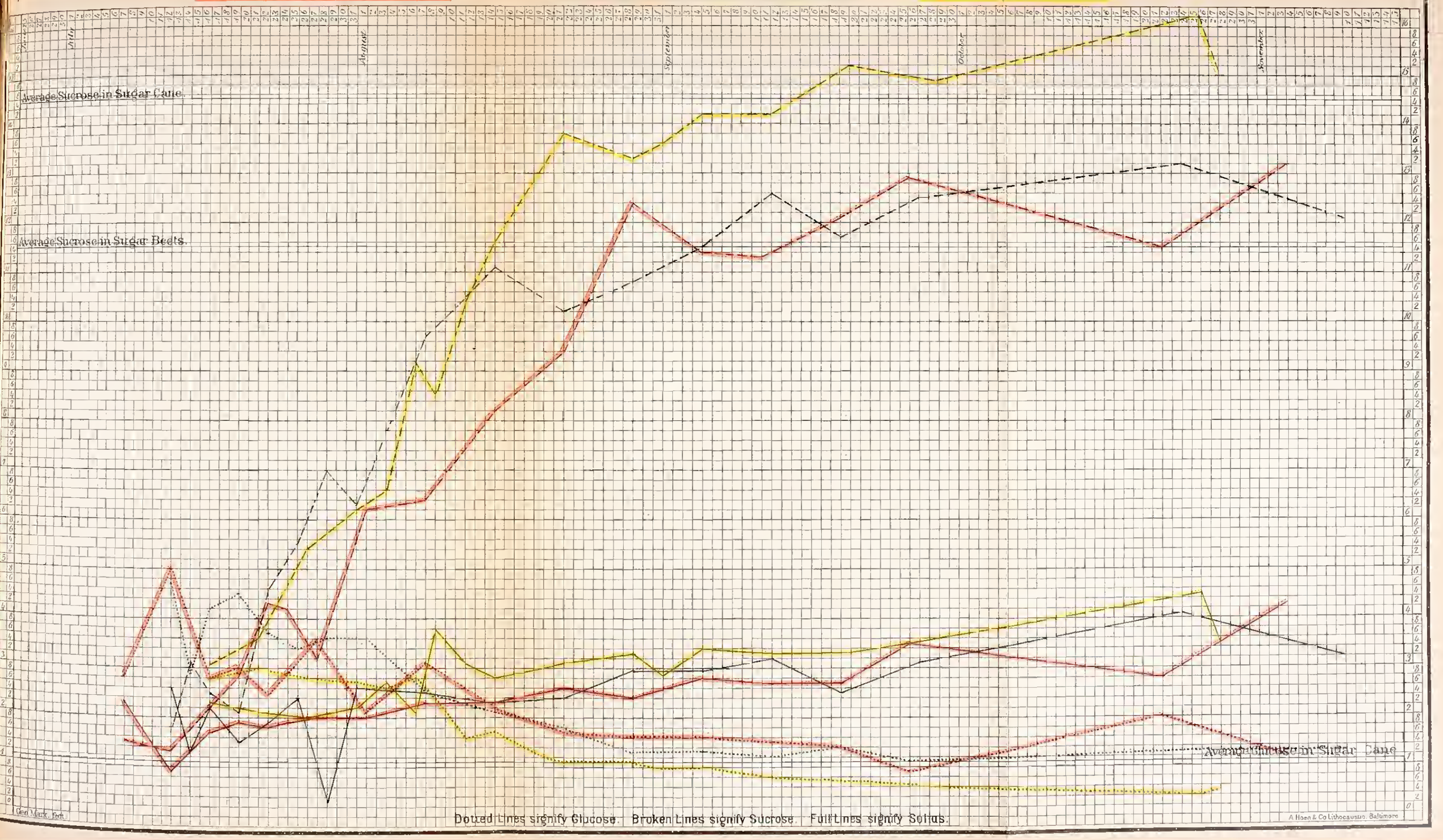
· orid. (E. Link.)


November.
Average Glucose in Sugar Cane.
A. Hoen & Co. Lithocaustic. Baltimore.

№ 10. Gomseeana. (Blymyer & Co.)

№ 11. Regular Sorgho. (Blymyer & Co.)

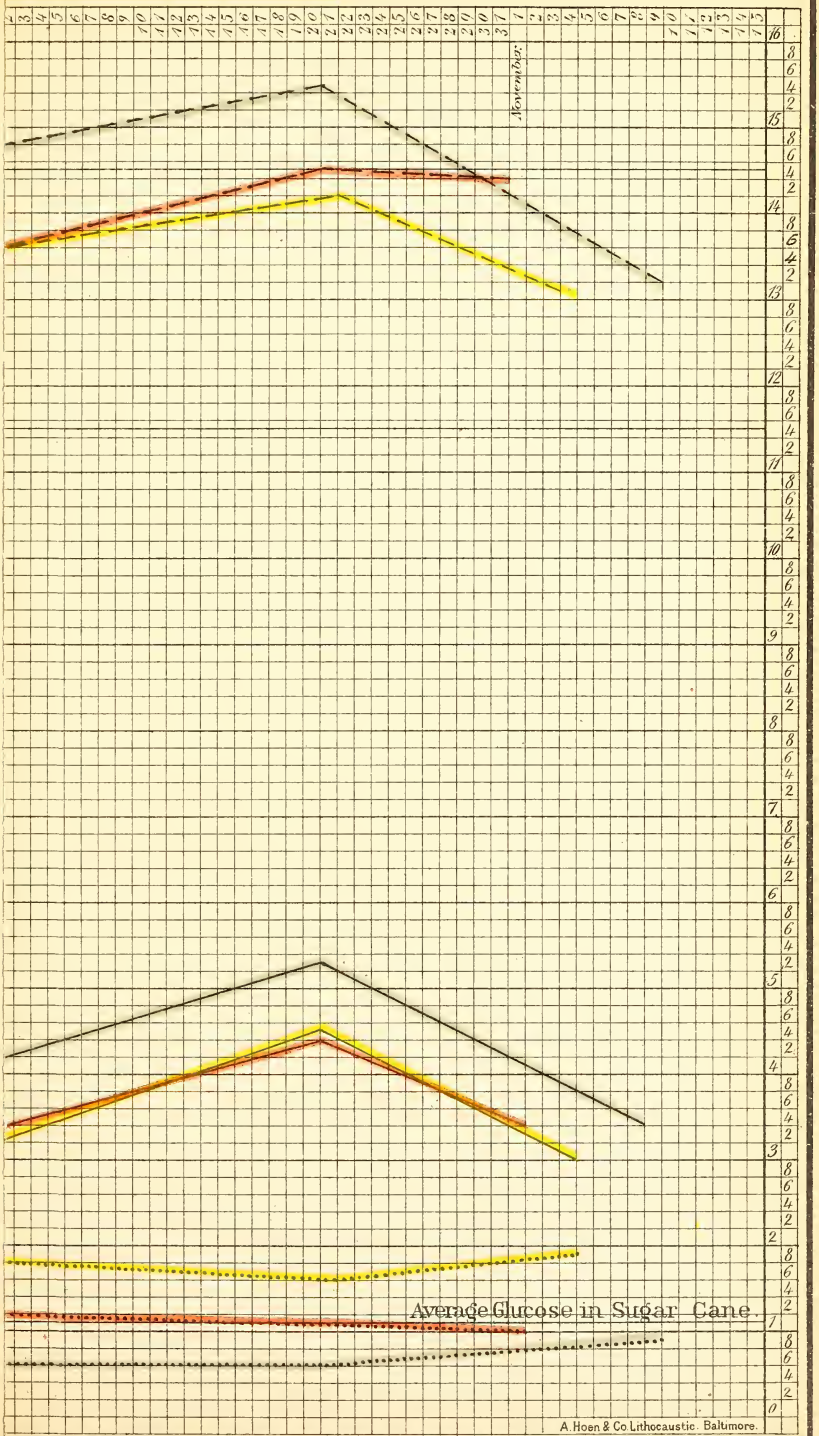
№ 12. Hyorid. (E. Link.)



Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

A Hoen & Co Lithocaustic. Baltimore

. Neeazana. (W.H.Lytle.)



№13. Sugar Cane. (Barger.)

№14. Oomseeana. (Blymyer & Co.)

№15. Neeazana. (W.H.Lytle.)

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mayr, Del.

A. Hoen & Co. Lithocaustic Baltimore.

eeazana. (Blymyer & Co.)

№16. Goose Neck. (P.P.Ramsey.)

№17. Early Orange. (L.A.Hedges.)

№18. Neeazana. (Blymyer & Co.)

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

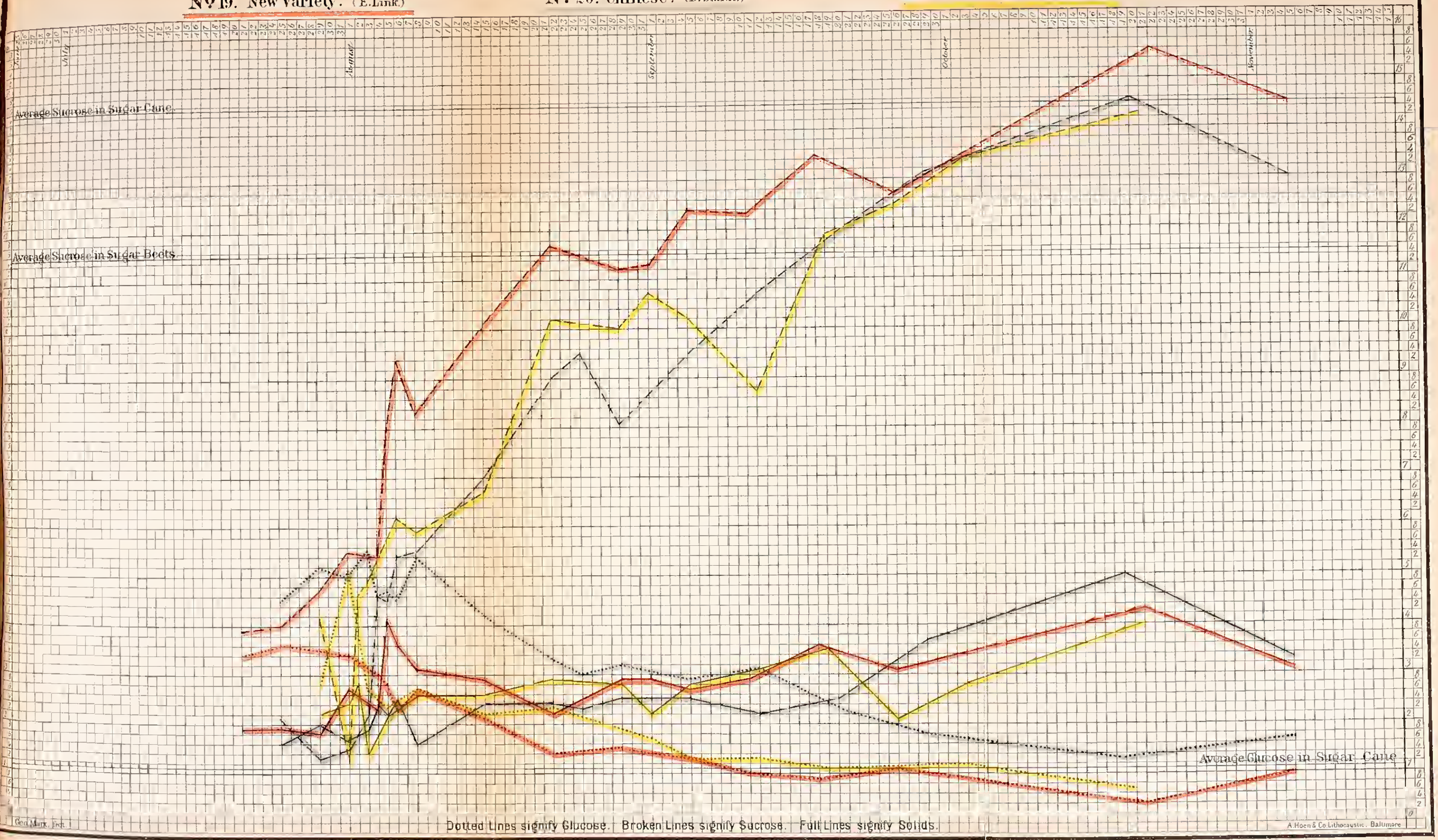
A Hoen & Co Lithocaustic, Baltimore.

Wolf Tail. (E.Link.)

Nº 19. New Variety. (E.Link.)

Nº 20. Chinese. (D.Smith.)

Nº 21. Wolf Tail. (E.Link.)

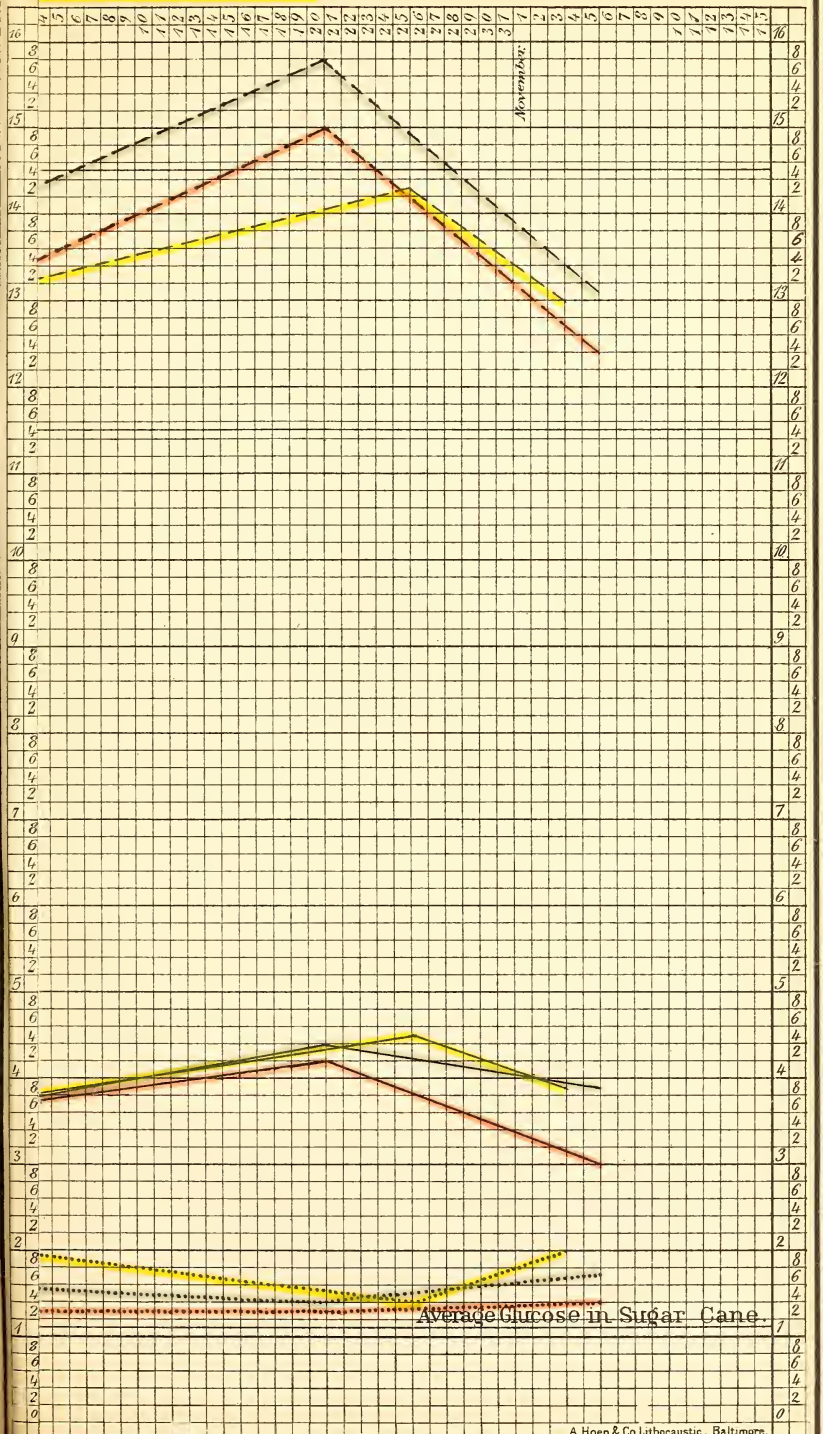


Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mark. Engr.

A. Hoen & Co. Lithocaustic. Baltimore

Liberian. (W.H.Lytle.)



Nº 22. Gray Top. (H.C. Sealey.)

Nº 23. Liberian. (Blymyer & Co.)

Nº 24. Liberian. (W.H. Lytle.)

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Marx. Del.

A. Hoen & Co. Lithocaustic. Baltimore.

Mastodon. (D.W. Aiken.)

№25. Oomseeana. (Mayes & Co.)

№26. Sumac. (W. Pope.)

№27. Mastodon. (D.W. Aiken.)

Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

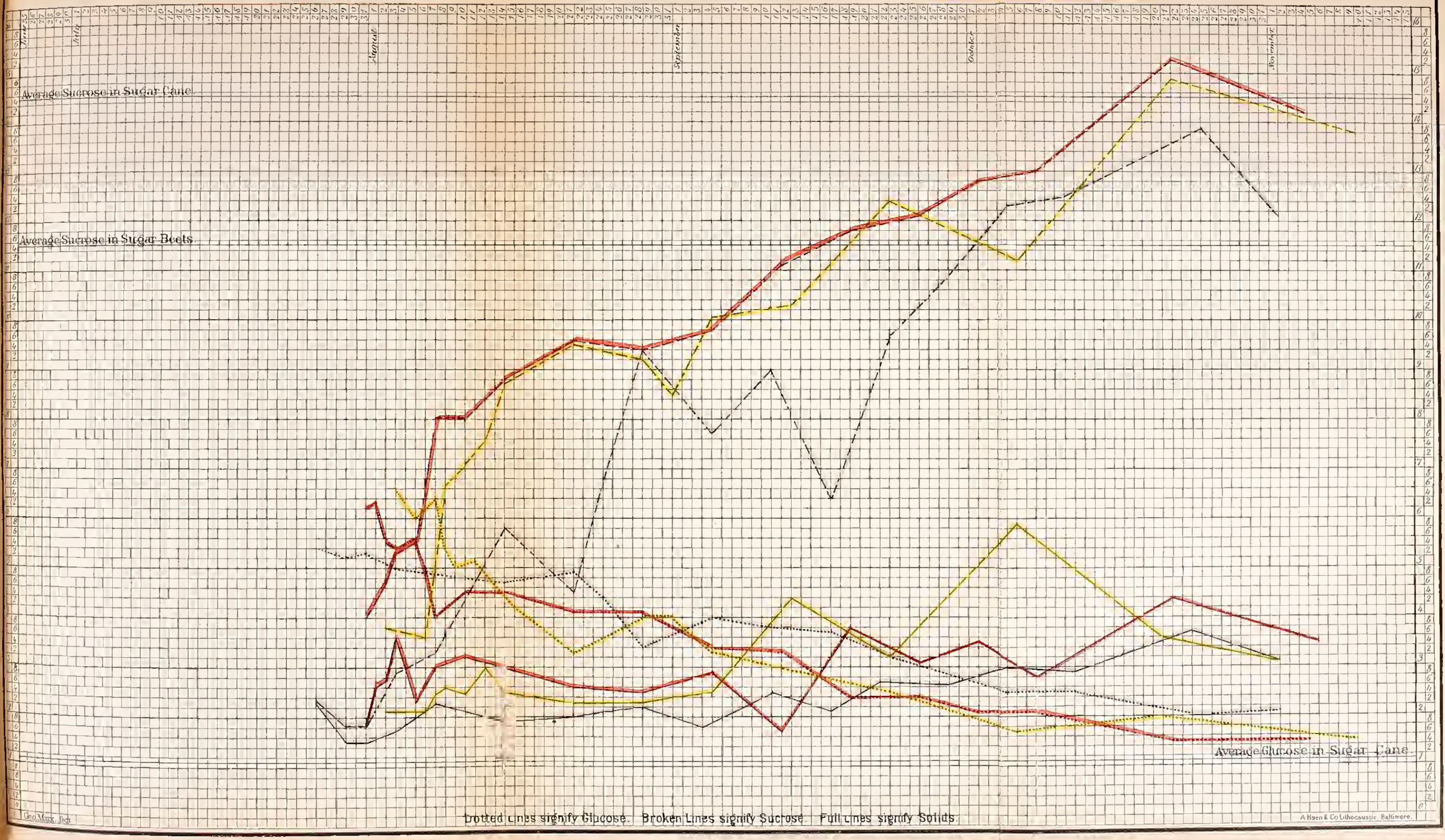
A Hoen & Co Lithocaustic Baltimore

Sumac. (Wighton.)

№ 28. Imphee. (D.W. Aiken.)

№ 29. New Variety. (J.H.W. Salle.)

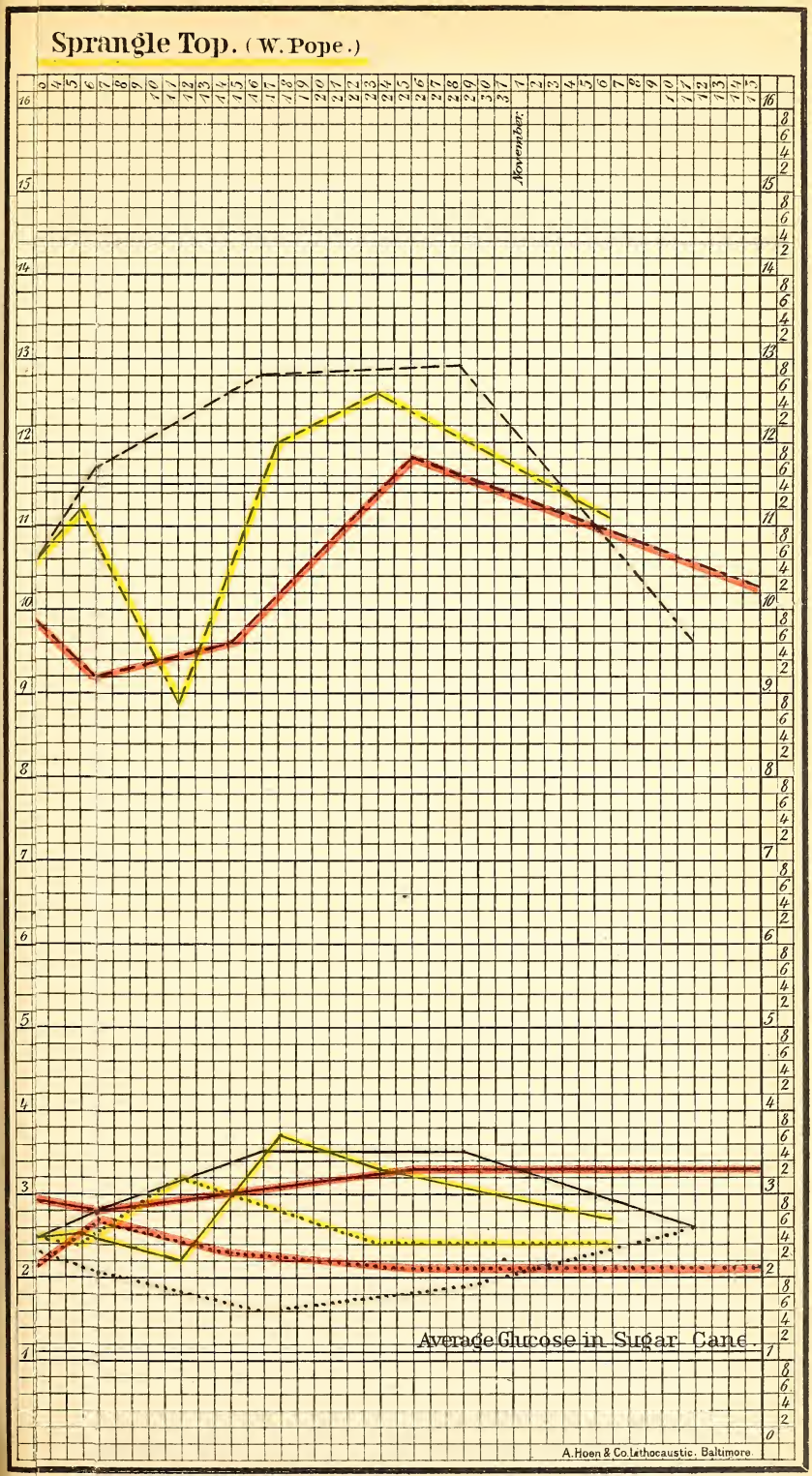
№ 30. Sumac. (Wighton.)



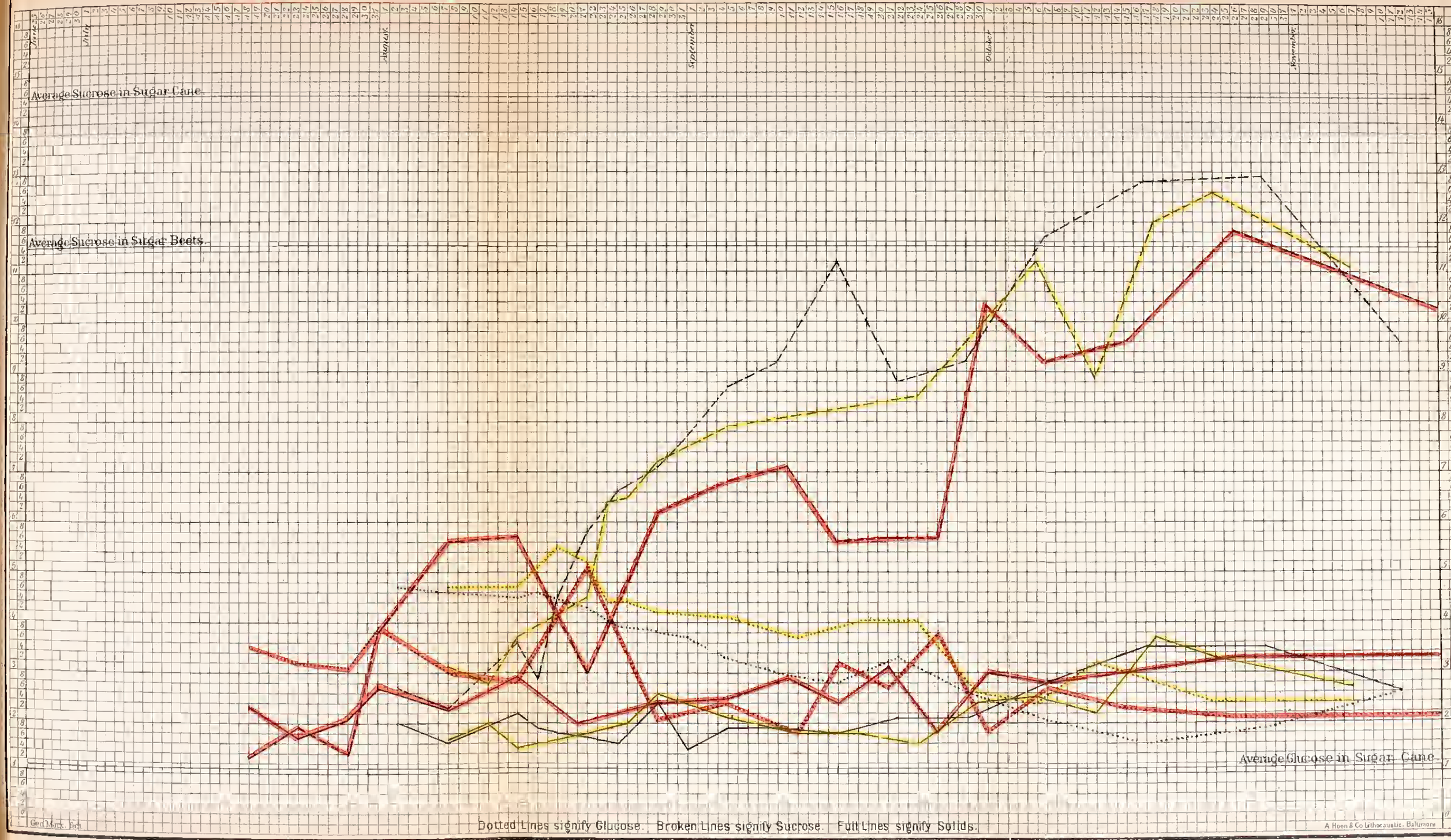
Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mark. Del.

A. Hoen & Co. Lithocaustic. Baltimore.


Sprangle Top. (W. Pope.)
November.
Average Glucose in Sugar Cane.
A. Hoen & Co. Lithocaustic. Baltimore.

Nº 31. Honduras. (Arsenal.) **Nº 32. Honey Cane. (J.H. Clark.)** **Nº 33. Sprangle Top. (W. Pope.)**



Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Gen'l Mark. Instr.
A. Hoen & Co. Lithocaustic, Baltimore

Honduras. (Brande.)

Nº 34. Honduras. (E.Link.)

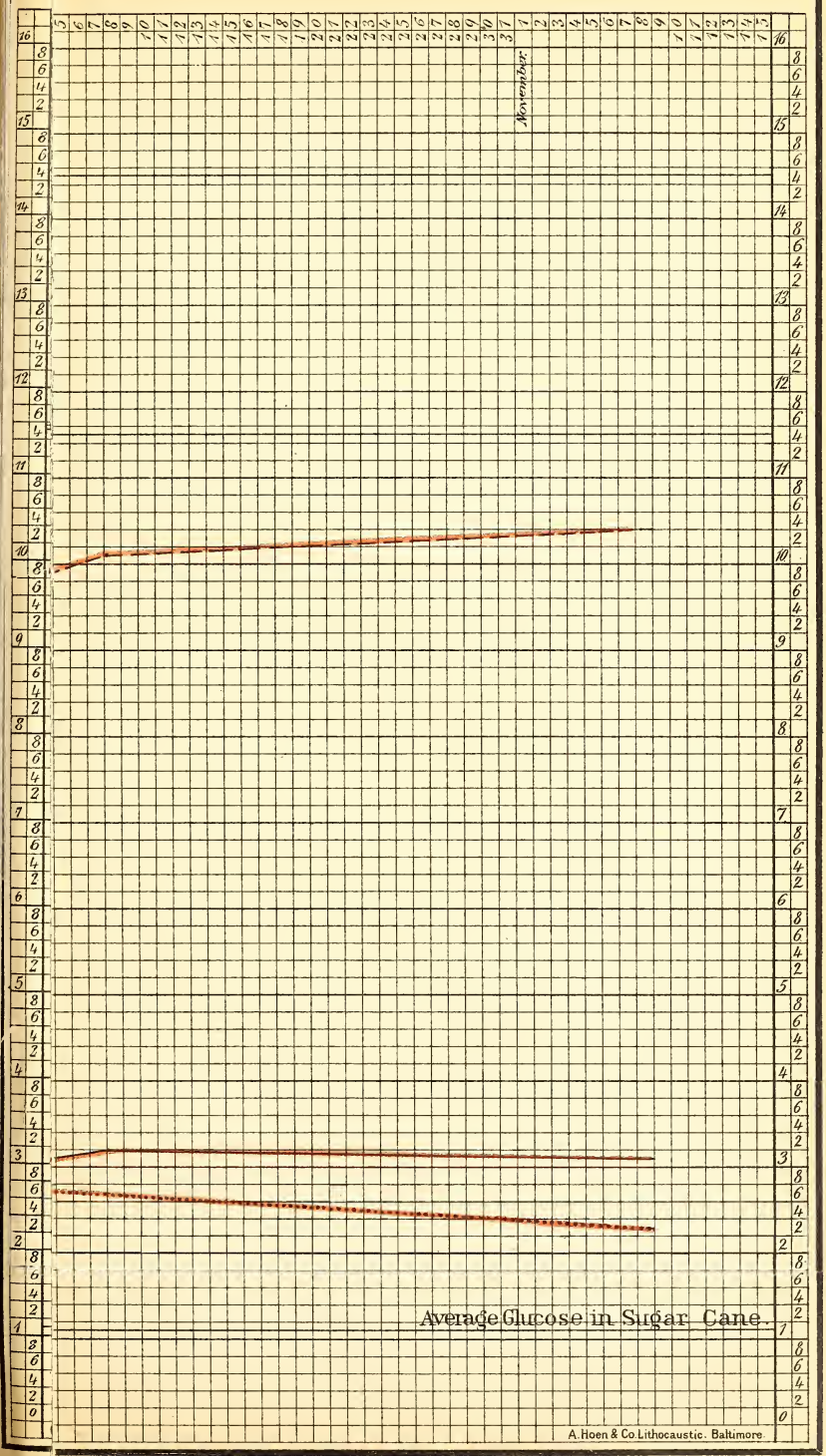
Nº 35. Honey Top or Texas Cane.

Nº 36. Honduras. (Brande.)

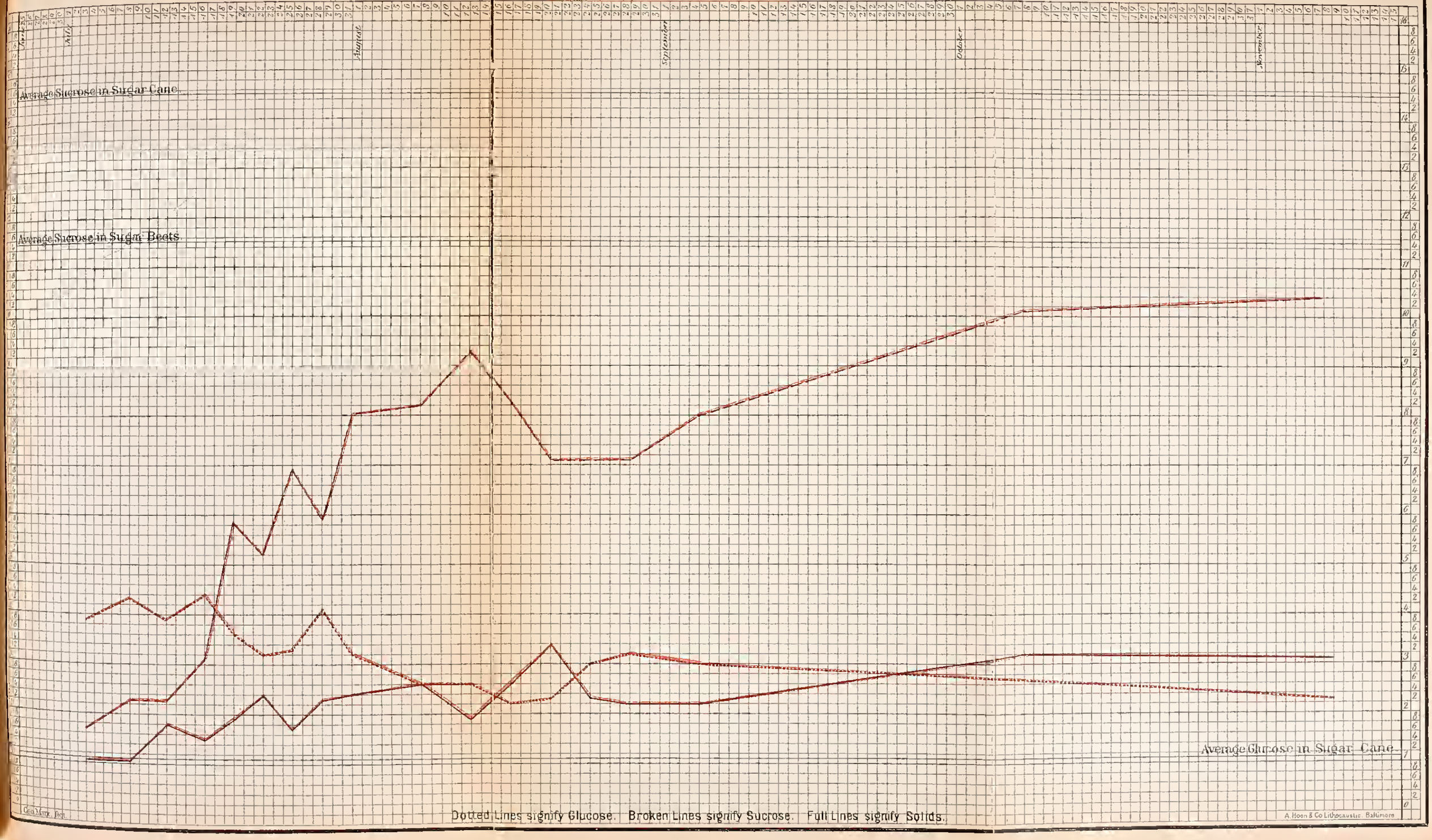
Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo Mayr. Del.

A Hoen & Co Lithocaustic, Baltimore.


November.
Average Glucose in Sugar Cane.
A. Hoen & Co. Lithocaustic. Baltimore.

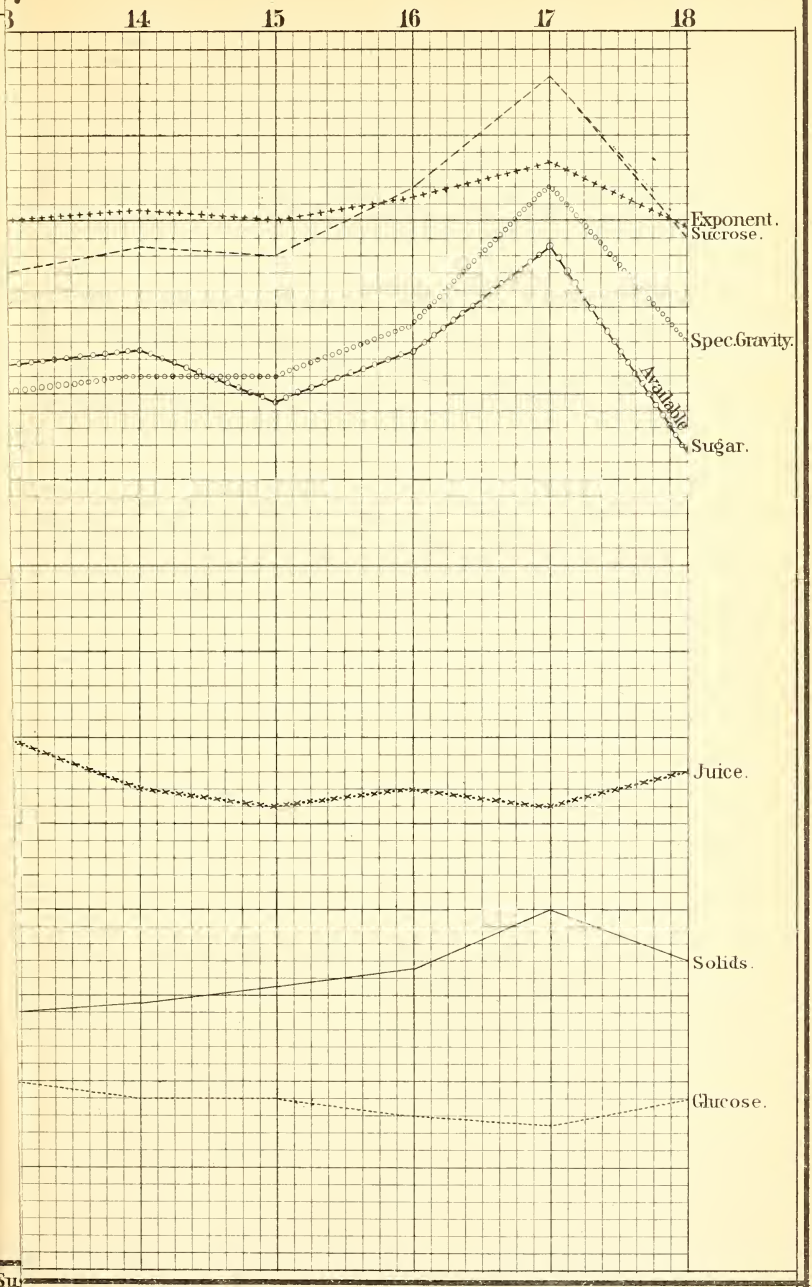
No 37. Sugar Cane. (Miller.)



Dotted Lines signify Glucose. Broken Lines signify Sucrose. Full Lines signify Solids.

Geo. Mink. Del.

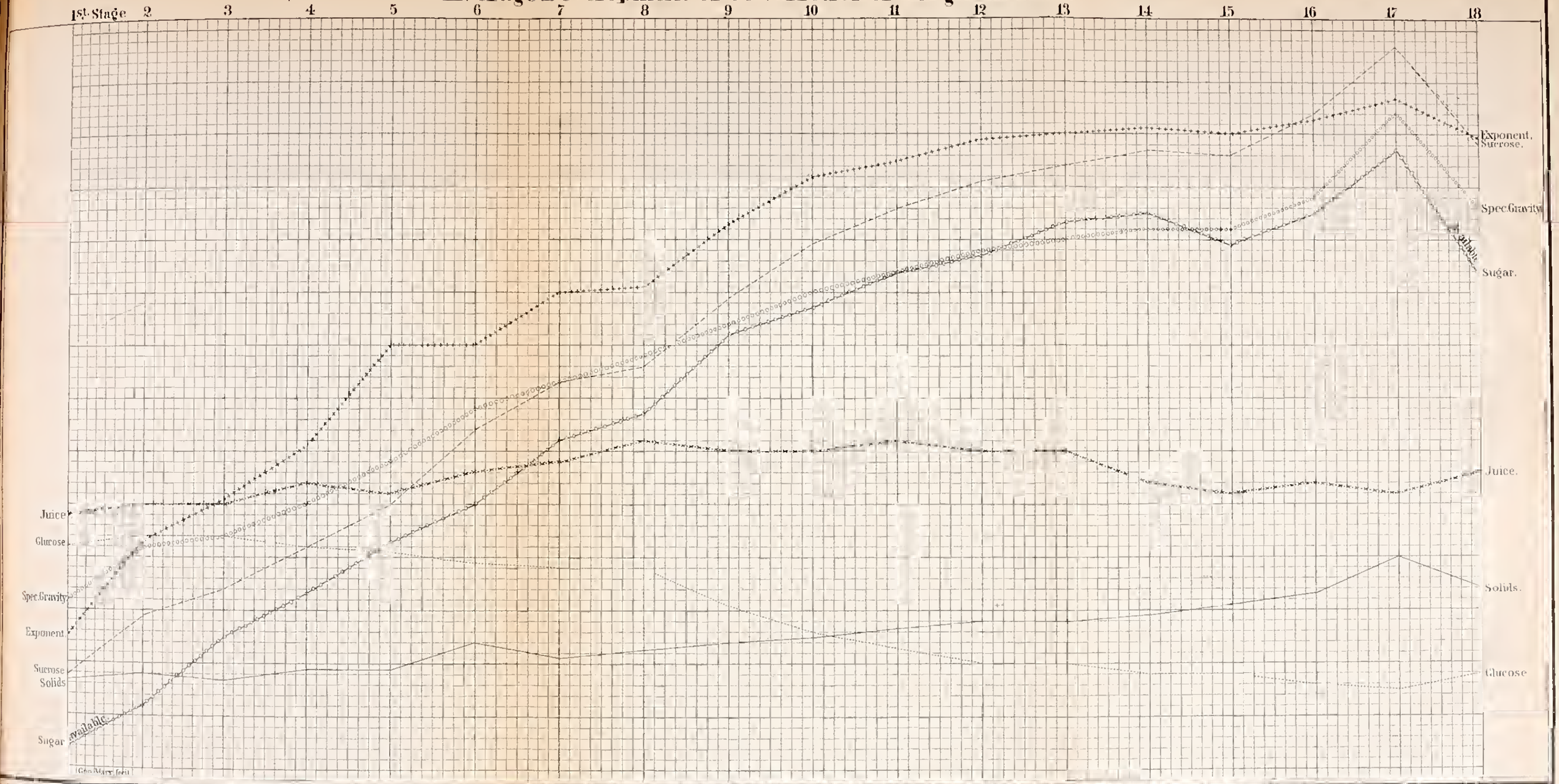
A. Hoen & Co Lithocaustic. Baltimore



Su					
No.	1728.	1667.	1739.	1967.	1724.
Suc.	191.	217.	339.	197.	191.
Glu.	11.76.	11.69.	12.40.	13.72.	11.92.
Sol.	1.88.	1.81.	1.64.	1.56.	1.85.
Juc.	2.96.	3.15.	3.32.	4.07.	3.42.
Spc.	61.72.	60.45.	61.20.	60.17.	62.09.
Exp.	1067.	1067.	1070.	1078.	1069.
	70.84.	70.21.	71.43.	70.90.	69.34.

A. Hoen & Co. Lithocaustic. Baltimore

Average Development of 38 Varieties of Sorghum 1880.



Sugar pr Acre 77.	186.	248.	363.	534.	674.	870.	939.	1201.	1141.	1580.	1662.	1697.	1728.	1667.	1739.	1967.	1734.
N° of Analyses 59.	70.	58.	72.	77.	64.	70.	111.	266.	217.	166.	170.	183.	191.	217.	339.	197.	191.
Sucrose % 1.74.	2.93.	3.47.	4.29.	5.06.	6.40.	7.38.	7.69.	8.95.	9.98.	10.66.	11.18.	11.40.	11.76	11.69.	12.40.	13.72.	11.92.
Glucose % 4.26.	4.44.	4.45.	4.28.	4.11.	3.94.	3.86.	3.83.	3.19.	2.60.	2.35.	2.07.	2.03.	1.88.	1.81.	1.64.	1.56.	1.85.
Solids % 1.73.	1.86.	1.79.	1.92.	1.97.	2.45.	2.19.	2.37.	2.42.	2.50.	2.72.	2.83.	2.82.	2.96.	3.15.	3.32.	4.07.	3.42.
Juice % 58.72.	59.52.	59.58.	61.58.	63.00.	62.60.	63.84.	65.65.	64.96.	64.94.	65.04.	63.62.	63.14.	61.72.	60.45.	61.20.	60.17.	62.09.
Spec.Gravity 1031.	1036.	1037.	1040.	1044.	1049.	1052.	1055.	1058.	1061.	1063.	1065.	1066.	1067.	1067.	1070.	1078.	1069.
Exponent % 22.51.	31.74.	35.74.	40.89.	49.90.	50.04.	54.95.	55.36.	61.47.	66.18.	67.77.	69.53.	70.15.	70.84.	70.21.	71.43.	70.90.	69.34.

A. Hoen & Co. Lithocaustic Baltimore.

nearly or quite ceased growing; also, the number of experiments for these higher specific gravities was smaller than for the lower figures. It is safe to say that the profitable working period for sorghum canes begins when the juice attains the specific gravity 1.066, and continues until the specific gravity 1.086 is reached, and frequently even longer. During this period the canes here examined furnished on an average 61.9 per cent. of juice from the stripped stalks. A good mill should furnish not less than 60 per cent. on the large scale. Several manufacturers are willing to contract for mills to furnish 65 per cent.

6th. On the supposition that a good mill, yielding at least 60 per cent. of juice from the stripped stalks, is used, the amount of sugar which should be obtained from 100 pounds of stalks is found by referring to the figures in the last column corresponding with the specific gravity of the juice obtained. For example, each 100 pounds of stripped stalks, the juice from which has the specific gravity 1.073, should actually furnish 5.51 pounds of cane sugar. Even better results than these have actually been obtained in several instances. In the same manner the yield of sugar can be calculated from the weight of the juice by reference to the figures under the heading "Available percentage of sucrose in juice."

TABLE No. 89.

Specific gravity.	Per cent. of juice.	Per cent. of glucose.	Per cent. of sucrose.	Per cent. of solids not sugar.	Total solids in juice.	Exponent.	Available per cent. sucrose in juice.	Available per cent. sucrose in stripped stalks at 60 per cent. juice.	Number of analyses.
1.019	61.32	.67	2.20	3.12	5.99	36.73	.81	.48	1
1.021	58.30	3.91	.54	.68	5.13	10.53	.06	04	2
1.022	69.04	3.06	1.46	1.11	5.63	25.93	.38	23	1
1.023	47.36	3.27	1.15	1.29	5.71	20.14	.23	.14	3
1.024	60.49	3.85	1.02	1.73	6.60	15.45	.16	.10	1
1.026	62.78	4.04	.98	.91	5.93	16.53	.16	.10	1
1.027	57.08	3.41	2.09	1.61	7.11	29.40	.61	.37	3
1.028	46.61	3.98	1.79	2.34	8.11	22.07	.40	.24	8
1.029	57.72	4.34	1.55	1.53	7.42	20.89	.33	.20	6
1.030	45.44	3.98	2.36	1.82	8.16	28.92	.58	.35	11
1.031	56.01	3.82	2.66	1.58	8.06	33.00	.88	.53	12
1.032	60.97	3.95	2.16	2.05	8.16	26.47	.57	.34	17
1.033	60.13	4.52	2.26	1.78	8.56	26.40	.60	.36	28
1.034	66.96	4.24	2.50	1.93	8.67	28.84	.72	.43	13
1.035	60.22	4.11	3.29	1.98	9.38	35.08	1.15	.69	23
1.036	64.28	4.56	3.12	1.59	9.27	33.66	1.05	.63	23
1.037	60.12	4.42	3.56	1.75	9.73	36.59	1.30	.78	25
1.038	61.37	4.43	3.43	1.88	9.74	35.22	1.21	.73	21
1.039	61.30	4.14	4.00	1.85	9.99	40.00	1.60	.96	25
1.040	62.78	3.94	4.41	1.77	10.17	43.36	1.91	1.15	18
1.041	62.41	4.21	4.30	1.92	10.43	41.23	1.77	1.06	26
1.042	59.40	4.13	4.69	1.91	10.73	43.71	2.05	1.23	23
1.043	64.72	4.26	4.95	1.92	11.13	44.48	2.20	1.32	22
1.044	63.98	3.79	5.23	2.17	11.19	46.74	2.42	1.45	17
1.045	64.54	3.87	5.51	2.19	11.47	48.04	2.65	1.59	24
1.046	64.34	3.76	5.72	2.10	11.58	49.34	2.82	1.69	30
1.047	65.03	3.43	6.28	2.15	11.86	52.95	3.33	2.00	31
1.048	65.18	3.99	6.08	2.03	12.10	50.25	3.06	1.84	36
1.049	62.88	3.62	6.34	2.23	12.19	52.01	3.30	1.98	37
1.050	66.17	3.32	6.99	2.29	12.60	55.48	3.88	2.33	48
1.051	62.81	3.12	7.18	2.26	12.56	57.17	4.10	2.46	42
1.052	64.36	3.18	7.64	2.46	13.28	57.61	4.40	2.64	43
1.053	63.95	3.42	7.58	2.31	13.31	56.95	4.32	2.59	43
1.054	63.33	3.12	7.74	2.27	13.13	58.95	4.57	2.74	49
1.055	65.66	3.38	8.12	2.24	13.74	59.09	4.80	2.88	55
1.056	63.66	2.96	8.61	2.40	13.97	61.63	4.92	2.95	52
1.057	62.74	2.99	8.90	2.34	14.23	62.54	5.57	3.34	56
1.058	64.10	2.78	9.18	2.53	14.49	63.35	5.82	3.49	76

TABLE No. 89—Continued.

Specific gravity.	Per cent. of juice.	Per cent of glucose.	Per cent. of sucrose.	Per cent. of solids not sugar.	Total solids in juice.	Exponent.	Available per cent. sucrose in juice.	Available per cent. sucrose in stripped stalks at 60 per cent. juice.	Number of analyses.
1.059	63.93	3.05	9.28	2.44	14.77	62 90	5.84	3.50	53
1.060	63.15	2.65	9.80	2.67	15.12	64.81	6.35	3.81	100
1.061	64.86	2.73	9.88	2.75	15.36	64.32	6.36	3.82	76
1.062	63.35	2.51	10.24	2.77	15.52	65.98	6.76	4.06	73
1.063	64.74	2.65	10.16	2.95	15.76	64.47	6.55	3.93	84
1.064	63.48	2.43	10.64	2.95	16.02	66.42	7.07	4.24	64
1.065	61.08	2.07	11.19	2.85	16.11	69.46	7.77	4.66	81
1.066	63.58	2.08	11.46	2.72	16.26	70.48	8.08	4.85	74
1.067	60.98	1.99	11.80	2.87	16.66	70.83	8.36	5.02	69
1.068	63.25	1.97	11.84	3.00	16.81	70.43	8.34	5.00	56
1.069	61.15	1.81	12.30	3.05	17.16	71.68	8.82	5.29	75
1.070	63.45	1.84	12.59	3.00	17.43	72.23	9.09	5.45	82
1.071	62.37	1.81	12.54	3.26	17.61	71.21	8.93	5.36	89
1.072	61.81	1.68	12.94	3.21	17.83	72.58	9.39	5.63	82
1.073	62.46	1.85	12.83	3.20	17.88	71.76	9.19	5.51	75
1.074	61.44	1.69	13.22	3.37	18.28	72.32	9.56	5.74	75
1.075	61.78	1.71	13.47	3.37	18.55	72.62	9.78	5.87	67
1.076	61.49	1.47	13.66	3.54	18.67	73.16	9.99	5.99	68
1.077	60.41	1.62	13.75	3.58	18.95	72.56	9.98	5.99	45
1.078	61.18	1.50	13.88	4.04	19.42	71.47	9.92	5.95	52
1.079	60.80	1.51	14.01	3.67	19.19	73.01	10.23	6.14	46
1.080	60.00	1.57	14.01	3.74	19.32	72.52	10.16	6.08	41
1.081	60.58	1.43	14.24	4.10	19.77	72.03	10.26	6.16	25
1.082	60.47	1.14	15.06	4.05	20.25	74.37	11.20	6.72	25
1.083	59.71	1.50	14.71	4.23	20.44	71.97	10.59	6.35	29
1.084	59.27	1.48	14.84	4.13	20.45	72.56	10.77	6.46	17
1.085	60.07	1.22	15.14	4.56	20.92	72.37	10.96	6.58	12
1.086	58.74	1.22	15.65	4.59	21.46	72.92	11.41	6.85	14
1.087	53.68	2.35	13.83	4.38	20.56	67.26	9.30	5.58	3
1.088	59.08	1.38	15.32	4.69	21.40	71.59	10.87	6.52	9
1.089	57.72	.80	16.25	6.32	23.37	69.53	11.30	6.78	1
1.090	55.57	1.19	15.87	4.78	21.84	72.66	11.53	6.92	3
1.092	54.55	2.75	14.76	4.70	22.21	66.45	9.81	5.89	1

COMPARISON OF DIFFERENT HYDROMETERS.

In taking the specific gravity of solutions containing sugar there are now used various hydrometers which are graduated in different ways. This naturally leads to considerable confusion, and it has been thought best to here append a table (No. 90) which shall show the comparative values of the different scales. It is always preferable in this work to use a hydrometer which shows the actual specific gravity of the juice, but those who have either the Baumé or Brix hydrometers can, by use of this table, make them answer every purpose. It will be noticed that the specific gravity 1.066, which was recommended as the proper indication that the juice was in a workable condition, corresponds exactly with 16° Brix and 9.° Baumé.

TABLE No. 90.—*Specific gravity equivalents of the Brix and Beaumé scales.*

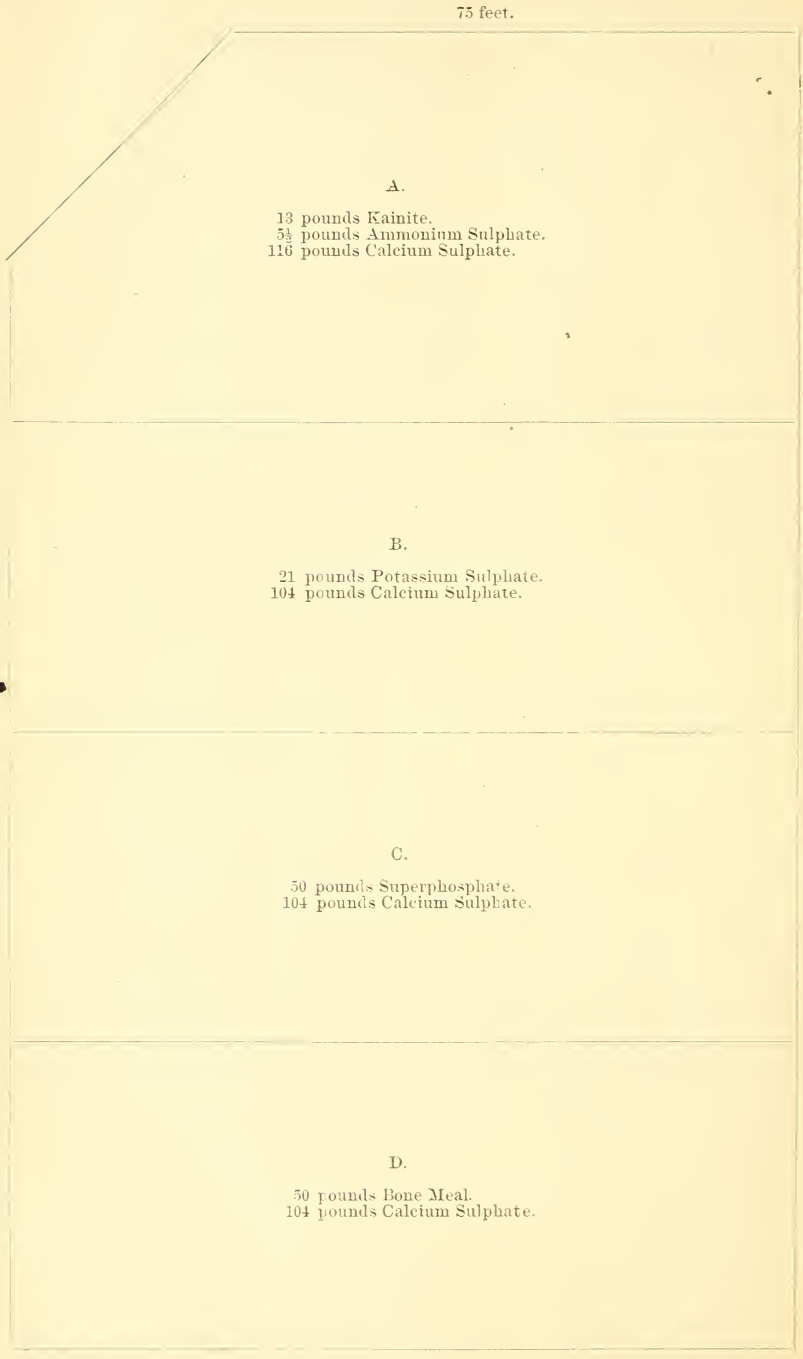
Specific gravity.	Degree Brix.	Degree Beaumé.	Specific gravity.	Degree Brix.	Degree Beaumé.	Specific gravity.	Degree Brix.	Degree Beaumé.
1.000	0.	0.0	1.094	22.5	.....	1.203	44.5	.....
.002	.5	.....	.097	23.	.....	.206	45.	.....
.004	1.	.....	.099	23.5	13.0	.208	45.5	.....
.006	1.5	.....	.101	24.	.....	.211	46.	25.0
.008	2.	1.0	.103	24.5	.....	.214	46.5	.....
.010	2.5	.....	.106	25.	.....	.216	47.	.....
.012	3.	.....	.108	25.5	14.0	.219	47.5	.....
.014	3.5	2.0	.111	26.	.....	.222	48.	26.0
.016	4.	.....	.113	26.5	.....	.225	48.5	.....
.018	4.5	.....	.115	27.	15.0	.227	49.	.....
.020	5.	.....	.118	27.5	.....	.230	49.5	27.0
.022	5.5	3.0	.120	28.	.....	.233	50.	.....
.024	6.	.....	.123	28.5	.....	.236	50.5	.....
.026	6.5	.....	.125	29.	16.0	.238	51.	.....
.028	7.	4.0	.127	29.5	.....	.241	51.5	28.0
.030	7.5	.....	.130	30.	.....	.244	52.	.....
.032	8.	.....	.132	30.5	.....	.247	52.5	.....
.034	8.5	.....	.134	31.	17.0	.250	53.	.....
.036	9.	5.0	.137	31.5	.....	.252	53.5	29.0
.038	9.5	.....	.139	32.	.....	.255	54.	.....
.040	10.	.....	.142	32.5	.....	.258	54.5	.....
.042	10.5	.....	.144	33.	18.0	.261	55.	.....
.044	11.	6.0	.147	33.5	.....	.264	55.5	30.0
.046	11.5	.....	.149	34.	.....	.267	56.	.....
.048	12.	.....	.152	34.5	19.0	.269	56.5	.....
.050	12.5	7.0	.154	35.	.....	.272	57.	.....
.053	13.	.....	.157	35.5	.....	.275	57.5	31.0
.055	13.5	.....	.159	36.	.....	.278	58.	.....
.057	14.	.....	.162	36.5	20.0	.281	58.5	.....
.059	14.5	8.0	.164	37.	.....	.284	59.	.....
.061	15.	.....	.167	37.5	.....	.287	59.5	32.0
.063	15.5	.....	.169	38.	.....	.290	60.	.....
.066	16.	9.0	.172	38.5	21.0	.293	60.5	.....
.068	16.5	.....	.174	39.	.....	.296	61.	.....
.070	17.	.....	.177	39.5	.....	.299	61.5	33.0
.072	17.5	.....	.179	40.	22.0	.302	62.	.....
.074	18.	10.0	.182	40.5	.....	.305	62.5	.....
.076	18.5	.....	.185	41.	.....	.308	63.	34.0
.079	19.	.....	.187	41.5	.....	.311	63.5	.....
.081	19.5	.....	.190	42.	23.0	.314	64.	.....
.083	20.	11.0	.192	42.5	.....	.317	64.5	.....
.085	20.5	.....	.195	43.	.....	.320	65.	35.0
.088	21.	.....	.198	43.5	.....	.323	65.5	.....
.090	21.5	12.0	.200	44.	24.0	.326	66.	.....
.092	22.	.....						

EFFECTS OF FERTILIZERS ON SUCROSE, GLUCOSE, AND SOLIDS IN SORGHUM JUICES.

The three tables which follow represent 634 analyses made for the purpose of determining what, if any, differences in the composition of sorghum juices are caused by the use of different fertilizing materials.

In order to give a more perfect understanding of the circumstances under which these experiments were conducted, there are here appended analyses of the soil and the special fertilizers applied, together with diagrams showing the exact shape and dimensions of each experimental plot.

Sorghum plot, Department Grounds.



Analysis of soil upon sorghum plot before applying fertilizers.

	Per cent.
Moisture	1.740
Organic matter	4.980
Carbonic acid	.200
Insoluble in acids	84.235
Ferric oxide	2.864
Alumina	4.416
Lime	.635
Magnesia	.400
Phosphoric acid	.198
Potash	.100
Soda	.054
Sulphuric acid	.024
	99.846

Analysis of fertilizers used upon sorghum plot.

Superphosphate of lime:

	Per cent.
Soluble phosphoric acid	9.77
Insoluble phosphoric acid	3.63
Reverted phosphoric acid	.69
Nitrogen (= NH_3 2.45 per cent)	2.02

Commercial kainite:

	Per cent.
Potassium sulphate	24.74
Sodium sulphate	18.92
Sodium chloride	15.54

Bone meal:

	Per cent.
Phosphoric acid	21.96
Nitrogen (= NH_3 5.22 per cent)	4.30

Sulphate of ammonia:

	Per cent.
Pure ammonium sulphate	98.39
Sulphuric acid (SO_3)	59.63
Ammonia (NH_3)	25.34

Sulphate of potash:

	Per cent.
Pure potassium sulphate	98.79
Potash (K_2O)	53.37
Sulphuric acid (SO_3)	45.42

An inspection of the analysis of the soil shows it to be exceptional in its very small content of lime, and in the almost entire absence of chlorine. It is, in fact, a gravelly soil which has been highly cultivated and very considerably changed in its character. Its present need seems chiefly to be the addition of sulphate of lime ("land plaster" or gypsum).

The superphosphate was such as is commonly sold in this vicinity; it was a good article, but not of the highest grade. The same may be said of the kainite. The other fertilizers were of higher grade. It was thought best to show the effect of each fertilizer on each cane in the various stages of its growth. For this purpose the results are classified in the three tables to correspond with a content of sucrose; in the first set below 5 per cent., in the second set of 5 to 10 per cent., in the third set of 10 to 15 per cent., and in the fourth set above 15 per cent. It will be understood that the results embraced in the third and fourth sets are those attained during the period when most of the canes were in the best condition for working; those in the first and second sets are equally valuable as helps in settling the effect of the fertilizers on the immature

growing cane; while the final averages must, after all, give the most accurate general idea as to the effect of each fertilizer on each cane during the whole season.

We do not feel warranted in drawing any definite conclusions from these final averages; the close agreement between the averages drawn from so many results seems to point to the fact that the soil originally contained sufficient food for the proper development of the sorghum plants, and that the addition of these special fertilizers was unnecessary and resulted in no marked change in the composition of the sorghum juices. In fact the analyses made a year ago showed the canes to have the same composition as they have this year been found to have, and equally large crops of four varieties of sorghum were then obtained. These results must not be taken to prove, however, that on certain soils, which are deficient in one or more essential constituents of plant food, the addition of proper fertilizers will not be of great value. Certainly such additions to poor soils are likely to increase the crop; whether the quality of the juice will be improved must yet be decided.

TABLE NO. 91.—*Average Sucroses.*

Number of cane.	First set.—Average sucrose below 5 per cent.				Second set.—Average sucrose 5 to 10 per cent.				Third set.—Average sucrose 10 to 15 per cent.				Fourth set.—Average sucrose over 15 per cent.				Final averages.—Average sucrose for each cane.				Number of analyses.
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	
1					8.41				12.04	12.09	12.34	12.41					11.87	12.09	12.34	12.41	20
2					9.17	9.02	11.82	7.84	11.66	11.54	10.84	12.01					11.28	11.30	10.90	11.78	19
3					8.17	8.42	10.55	9.55	11.54	12.02	11.31	11.03					11.06	11.64	11.18	10.78	19
4					10.62	11.06	7.22	7.44	11.89	12.50	12.36	11.57					11.61	12.34	11.75	11.11	18
5			2.20		8.62	7.62			13.18	12.70	12.57	13.35				15.20	12.80	12.24	11.62	13.51	11
6									12.41	12.51			16.31	15.07			12.73	12.73			12
7									12.71	13.03			15.45				12.91	13.03			13
8									12.33	12.40	12.10	12.10					12.33	12.40	12.10	12.10	19
9					8.66	9.04	8.47	8.19	13.14	12.60	13.53	13.41	15.30	14.91	15.09	16.15	12.17	11.41	12.68	12.56	13
10					6.20	9.67	9.50	8.50	12.39	12.27	12.59	12.45					10.92	11.58	11.68	11.29	19
11					9.15	9.06	10.70	7.67	12.24	12.23	11.95	12.35					11.95	11.90	11.81	11.86	19
12											13.67	13.62			15.64	15.48			14.45	14.42	15
13											13.36	14.08			15.19				13.50	14.08	14
14							8.23	11.43			12.25	13.16			15.24	15.43			12.48	13.51	17
15					9.08	9.86	8.75	8.66	12.61	12.84	12.42	12.40					12.28	12.51	11.99	11.98	19
16					9.38	8.27	8.58	8.84	12.41	11.52	11.58	12.33	15.20		15.00	15.13	12.16	10.98	11.22	11.98	19
17					8.78	9.63	8.95	8.87	12.68	12.49	12.82	12.95	15.81	13.78	15.49	15.45	12.42	12.24	12.52	12.62	18
18					9.15	9.47	9.35	9.08	12.72	12.71	13.36	12.39					12.38	12.39	12.94	12.06	20
19											12.05	11.85			15.72	15.29			12.97	12.91	13
20					8.33	7.52	8.18	7.67	13.00	12.42	12.49	13.09					11.18	10.40	10.61	10.87	17
21					9.43	9.21	12.58	10.72									12.13	10.47			13
22					8.29	8.00	7.61	8.33	13.50	11.93	12.75	12.31	15.60	13.87	14.71	15.96	11.14	10.17	10.14	10.52	18
23					9.09	8.93	8.34	8.75	13.19	12.60	13.10	13.59					11.88	11.31	11.34	11.71	20
24					8.58	8.52	8.26	8.71	12.95	12.32	13.40	12.61					11.56	11.05	11.51	11.00	20

TABLE No. 91.—*Average Sucroses*—Continued.

Number of cane.	First set.—Average sucrose below 5 per cent.				Second set.—Average sucrose 5 to 10 per cent.				Third set.—Average sucrose 10 to 15 per cent.				Fourth set.—Average sucrose over 15 per cent.				Final averages.—Average sucrose for each cane.				Number of analyses.
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	
25	.....	.....	.....	.....	9.03	8.74	8.48	8.38	13.32	13.01	13.13	13.24	.....	.....	.....	.....	12.04	11.51	11.34	11.62	17
26	.....	.....	.....	.....	9.73	9.05	8.89	8.52	12.52	13.24	13.45	12.61	15.73	13.72	15.84	15.10	11.59	11.03	11.18	10.88	16
27	.....	.....	4.94	4.70	.....	.....	8.43	8.76	.....	.....	11.72	12.96	.....	.....	16.10	16.15	.....	.....	10.10	10.28	17
28	.....	.....	.....	.....	.....	.....	8.77	8.88	.....	.....	12.18	13.13	.....	.....	15.64	15.93	.....	.....	11.04	11.54	16
29	.....	.....	.....	.....	7.42	7.97	8.24	8.07	12.51	11.81	13.05	12.17	.....	.....	.....	.....	10.11	9.89	10.49	9.99	16
30	.....	.....	.....	.....	.....	.....	8.80	8.54	.....	.....	11.84	12.54	.....	.....	15.01	16.06	.....	.....	10.63	10.79	15
31	1.46	8.73	3.95	4.38	6.68	6.85	7.83	7.82	9.10	10.98	11.36	11.02	.....	.....	.....	.....	7.09	8.17	8.64	8.56	17
32	3.80	3.87	4.05	4.34	8.46	8.08	8.21	6.66	12.24	11.69	11.59	11.45	.....	.....	.....	.....	9.23	8.33	8.40	7.87	19
33	3.05	3.53	3.59	3.71	6.74	7.39	8.26	8.47	11.00	11.27	11.71	12.18	.....	.....	.....	.....	6.90	7.21	7.55	7.97	21
34	3.56	4.05	3.40	3.68	8.35	7.99	7.51	7.71	11.11	12.48	11.69	11.99	.....	.....	.....	.....	7.49	7.87	7.25	7.51	15
35	3.11	3.39	2.89	3.47	6.89	7.17	8.00	7.82	11.28	11.11	10.90	12.15	.....	.....	.....	.....	7.04	6.70	6.94	7.62	23
36	3.34	3.38	3.29	3.39	7.68	7.72	7.66	7.53	11.79	10.16	12.32	10.87	.....	.....	.....	.....	7.82	7.09	7.49	6.93	19
37	3.10	6.59	2.27	3.71	8.55	7.41	7.71	8.89	10.70	9.98	12.15	12.55	.....	.....	.....	.....	8.44	7.89	8.21	8.93	18
Averages	3.23	3.98	4.02	3.72	8.17	8.12	8.31	7.65	12.38	11.88	12.38	12.43	15.60	14.27	15.48	15.50	10.79	10.55	10.82	10.68	
Order	C. B. D. A.				C. A. B. D.				D. A. C. B.				A. D. C. B.				C. A. D. B.				

TABLE No. 92.—*Average Glucoses.*

Row.	First set.—Glucose corresponding with average sucrose below 5 per cent.				Second set.—Glucose corresponding with average sucrose 5 to 10 per cent.				Third set.—Glucose corresponding with average sucrose 10 to 15 per cent.				Fourth set.—Glucose corresponding with average sucrose over 15 per cent.				Final averages.—Average glucose for the row.			
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.
1	.....	.....	.....	.....	2.19	.....	.....	.....	1.39	1.52	1.49	1.31	.....	.....	.....	.....	1.43	1.52	1.49	1.31
2	.....	.....	.....	.....	1.79	2.58	1.30	1.87	1.54	1.63	1.63	1.38	.....	.....	.....	.....	1.58	1.72	1.62	1.44
3	.....	.....	.....	.....	2.23	1.96	1.83	1.57	1.57	1.67	1.66	1.54	.....	.....	.....	.....	1.66	1.71	1.69	1.55
4	.....	.....	.....	.....	1.65	1.64	2.61	1.80	1.48	1.52	1.43	1.54	.....	.....	.....	.....	1.51	1.54	1.57	1.57
5	.....	.....	.67	.....	3.18	1.50	.....	.....	1.44	1.36	1.44	1.34	.....	.....	.....	.98	1.59	1.37	1.37	1.31
6	.....	.....	.....	.....	.....	.....	.....	.....	1.31	1.56	.....	.....	1.56	.94	.....	.....	1.32	1.51	.....	.....
7	.....	.....	.....	.....	.....	.....	.....	.....	1.12	1.03	.....	.....	.46	.....	.....	.....	1.08	1.03	.....	.....
8	.....	.....	.....	.....	.....	.....	.....	.....	1.54	1.21	1.45	1.23	.....	.....	.....	.....	1.54	1.21	1.45	1.23
9	.....	.....	.....	.....	2.45	2.69	3.09	2.89	1.19	1.25	1.18	1.21	.72	.93	1.00	.88	1.48	1.66	1.54	1.55
10	.....	.....	.....	.....	2.15	2.06	2.17	2.30	1.25	1.55	1.24	1.41	.....	.....	.....	.....	1.46	1.68	1.52	1.66
11	.....	.....	.....	.....	2.09	2.59	1.54	2.71	1.27	1.33	1.43	1.49	.....	.....	.....	.....	1.34	1.46	1.44	1.62
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.04	1.10	.....	.....	.58	.54	.....	.....	.85	.88
13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.46	1.38	.....	.....	1.22	1.19	.....	.....	1.44	1.37
14	.....	.....	.....	.....	.....	.....	2.11	1.48	.....	.....	1.13	1.06	.....	.....	.66	.76	.....	.....	1.14	1.04
15	.....	.....	.....	.....	3.72	3.62	3.75	3.71	2.22	2.24	2.41	2.30	.....	.....	.....	.....	2.35	2.37	2.55	2.45
16	.....	.....	.....	.....	3.10	3.09	3.02	3.02	1.36	1.83	1.68	1.41	.60	1.07	.85	.69	1.57	1.99	1.87	1.65
17	.....	.....	.....	.....	4.03	3.65	3.87	3.73	1.86	1.97	1.98	2.04	.98	1.08	1.70	1.40	2.03	2.10	2.20	2.20
18	.....	.....	.....	.....	3.83	3.49	3.86	3.84	2.24	2.23	2.21	2.34	.....	.....	.....	.....	2.38	2.35	2.37	2.49
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.37	1.43	.....	.....	.68	.60	.....	.....	1.21	1.15
20	.....	.....	.....	.....	3.88	3.49	3.53	3.77	1.66	2.19	2.44	1.89	.....	.....	.....	.....	2.51	2.77	2.96	2.72
21	.....	.....	.....	.....	1.18	1.53	.....	.....	1.34	1.32	.....	.....	.....	.....	.....	.....	1.31	1.35	.....	.....
22	.....	.....	.....	.....	2.23	2.17	2.28	2.40	1.27	1.53	1.56	1.74	.95	1.46	1.40	.98	1.67	1.84	1.92	2.03
23	.....	.....	.....	.....	3.37	3.51	3.54	3.70	1.88	2.46	2.10	2.42	.....	.....	.....	.....	2.33	2.78	2.58	2.85

TABLE NO. 92.—*Average Glucoses*—Continued.

Row.	First set.—Glucose corresponding with average sucrose below 5 per cent.				Second set.—Glucose corresponding with average sucrose 5 to 10 per cent.				Third set.—Glucose corresponding with average sucrose 10 to 15 per cent.				Fourth set.—Glucose corresponding with average sucrose over 15 per cent.				Final averages.—Average glucose for the row.			
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.
24	.....	.....	.....	.....	3.65	3.71	3.72	3.88	2.05	2.61	2.28	2.58	.....	.....	.....	.....	2.54	2.94	2.76	3.02
25	.....	.....	.....	.....	3.82	3.85	3.99	3.99	1.79	2.02	1.93	1.98	.....	.....	.....	.....	2.40	2.86	2.71	2.69
26	.....	.....	.....	.....	3.74	3.70	3.98	4.25	2.55	2.12	2.15	2.22	1.42	1.64	1.02	1.44	2.93	2.80	2.99	3.28
27	.....	.....	4.61	4.82	.....	.....	2.76	2.42	.....	.....	1.96	2.01	.....	.....	.85	1.95	.....	.....	2.45	2.41
28	.....	.....	.....	.....	.....	.....	4.15	4.03	.....	.....	2.47	2.41	.....	.....	1.27	1.39	.....	.....	3.06	2.93
29	.....	.....	.....	.....	3.91	3.92	3.73	4.26	2.45	2.55	2.25	2.34	.....	.....	.....	.....	3.14	3.24	3.04	3.36
30	.....	.....	.....	.....	.....	.....	3.98	4.33	.....	.....	2.45	2.32	.....	.....	1.90	2.42	.....	.....	3.13	3.26
31	3.06	2.37	2.61	4.61	2.44	2.36	2.21	2.42	2.16	2.86	1.64	2.09	.....	.....	.....	.....	2.40	2.51	2.07	2.46
32	4.43	4.46	4.63	4.42	3.19	3.47	3.64	4.12	1.87	2.69	2.12	2.41	.....	.....	.....	.....	2.86	3.43	3.37	3.60
33	4.74	4.93	5.02	5.08	4.15	4.15	3.82	3.56	2.39	2.85	2.61	2.05	.....	.....	.....	.....	3.83	4.06	3.88	3.64
34	4.55	4.59	4.74	4.90	3.67	3.72	3.93	3.57	2.97	2.66	2.97	2.67	.....	.....	.....	.....	3.73	3.72	3.94	3.77
35	4.73	4.69	4.80	4.82	4.17	3.94	3.90	3.89	2.55	2.88	2.80	2.52	.....	.....	.....	.....	3.91	3.99	3.98	3.83
36	4.61	5.12	4.86	4.44	3.77	4.06	3.92	3.94	2.32	3.37	2.28	2.55	.....	.....	.....	.....	3.55	4.20	3.82	3.88
37	2.53	1.97	3.09	3.52	2.69	2.87	3.06	3.19	2.51	2.60	2.42	2.41	.....	.....	.....	.....	2.64	2.71	2.91	3.08
Averages	4.43	4.50	4.51	4.75	3.22	3.28	3.34	3.40	1.72	1.87	1.81	1.80	.98	1.25	.88	.94	2.25	2.41	2.38	2.37
Order	D. C. B. A.				D. C. B. A.				B. C. D. A.				B. A. D. C.				B. C. D. A.			

TABLE NO. 93.—*Average Solids.*

Row.	First set.—Solids corresponding to average sucrose below 5 per cent.				Second set.—Solids corresponding to average sucrose 5 to 10 per cent.				Third set.—Solids corresponding to average sucrose 10 to 15 per cent.				Fourth set.—Solids corresponding to average sucrose above 15 per cent.				Final averages.—Average solids for the row.			
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.
1					3.48				3.50	3.28	3.30	3.08					3.49	3.28	3.30	3.08
2					3.41	3.44	3.98	4.86	3.44	3.34	3.22	3.46					3.44	3.35	3.28	3.54
3					3.24	2.95	2.36	3.62	3.35	3.04	3.26	3.24					3.33	3.03	3.15	3.28
4					3.55	3.06	2.70	2.51	3.10	3.16	3.03	3.08					3.21	3.15	2.98	3.04
5			3.12		3.19	4.26			2.87	2.92	2.86	3.16				5.23	2.90	3.04	2.89	3.34
6									3.15	3.43			2.54	2.81			3.10	3.38		
7									2.83	3.41			3.75				2.89	3.41		
8									3.23	3.21	3.19	3.31					3.23	3.21	3.19	3.31
9					2.01	2.10	1.83	2.02	3.46	3.14	3.42	4.03	3.16		3.02	2.95	3.00	2.67	3.06	3.39
10					2.07	2.14	2.74	2.38	3.02	3.17	3.18	3.60					2.78	2.89	3.05	3.24
11					2.44	2.53	2.90	2.38	3.22	2.86	3.19	3.08					3.14	2.82	3.16	3.36
12											3.43	3.27			3.90	3.69			3.62	3.43
13											3.22	3.49			3.88				3.27	3.49
14							2.50	2.90			3.06	3.65			3.74	4.59			3.15	3.79
15					2.49	2.82	2.46	2.80	3.02	2.77	3.43	2.96					2.97	2.98	3.32	2.94
16					1.97	2.05	2.46	2.70	2.98	2.96	3.06	3.30	4.28		4.25	4.73	2.89	2.81	3.02	3.21
17					1.44	1.73	1.91	2.02	2.94	3.11	3.01	3.35	4.47	3.63	3.37	4.43	2.85	2.99	2.90	3.32
18					2.29	3.58	2.50	2.25	3.21	3.03	2.85	3.10					3.13	3.09	2.81	3.01
19											3.03	3.01			4.81	5.14			3.35	3.66
20					2.29	2.40	2.57	2.37	3.66	3.34	3.26	3.28					3.13	2.96	2.96	2.90
21					2.61	3.53			2.85	3.31							2.83	3.33		
22					2.58	2.59	2.74	2.36	3.65	3.55	3.16	3.36	4.22		4.66	4.92	3.17	3.04	3.02	2.95
23					2.69	2.55	2.28	2.73	3.51	3.35	3.60	3.54					3.24	3.10	3.11	3.26

TABLE No. 93.—*Average Solids*—Continued.

Row.	First set.—Solids corresponding to average sucrose below 5 per cent.				Second set.—Solids corresponding to average sucrose 5 to 10 per cent.				Third set.—Solids corresponding to average sucrose 10 to 15 per cent.				Fourth set.—Solids corresponding to average sucrose above 15 per cent.				Final averages.—Average solids for the row.			
	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.
24	.....	.....	.....	.....	2.56	2.47	2.32	2.57	3.77	3.49	3.53	3.89	.....	.....	.....	.....	3.37	3.13	3.08	3.41
25	.....	.....	.....	.....	2.69	2.74	2.50	2.80	3.31	3.37	3.20	3.37	.....	.....	.....	.....	3.11	3.15	2.93	3.18
26	.....	.....	.....	.....	2.42	2.06	2.29	2.55	4.12	4.02	3.33	3.93	3.89	3.84	5.07	4.45	3.24	2.97	2.89	3.30
27	.....	.....	1.25	1.42	.....	.....	2.27	2.54	.....	.....	2.69	3.40	.....	.....	4.04	3.97	.....	.....	2.56	2.83
28	.....	.....	.....	.....	.....	.....	2.88	3.13	.....	.....	3.34	3.12	.....	.....	5.10	4.22	.....	.....	3.27	3.19
29	.....	.....	.....	.....	2.35	2.12	2.31	2.17	2.83	2.94	3.21	3.10	.....	.....	.....	.....	2.61	2.52	2.73	2.60
30	.....	.....	.....	.....	.....	.....	2.58	2.44	.....	.....	3.89	3.50	.....	.....	3.40	2.02	.....	.....	3.25	2.86
31	1.11	2.79	2.50	2.04	2.60	2.90	2.59	2.89	2.89	2.96	3.83	3.17	.....	.....	.....	.....	2.58	2.91	2.95	2.92
32	1.76	2.01	1.82	1.90	2.15	1.99	1.76	1.76	3.25	2.75	2.60	2.84	.....	.....	.....	.....	2.51	2.18	2.04	2.15
33	1.78	1.72	1.81	1.83	1.84	2.25	1.98	2.12	2.79	2.85	2.92	3.21	.....	.....	.....	.....	2.08	2.24	2.12	2.26
34	1.39	1.72	1.78	1.49	2.16	2.37	1.89	1.79	2.93	2.96	3.17	3.03	.....	.....	.....	.....	2.11	2.31	2.19	2.02
35	1.57	1.68	1.63	1.37	1.91	2.07	2.14	2.15	3.23	2.92	2.89	2.97	.....	.....	.....	.....	2.15	2.13	2.14	2.25
36	1.59	1.37	1.66	1.49	1.79	1.91	2.10	1.92	2.81	2.96	3.50	3.73	.....	.....	.....	.....	2.01	1.94	2.21	1.94
37	3.37	3.01	2.29	2.73	2.80	2.53	2.33	2.75	2.98	3.77	2.83	4.34	.....	.....	.....	.....	2.89	2.86	2.42	2.93
Averages	1.72	1.81	1.80	1.68	2.39	2.40	2.34	2.46	3.22	3.17	3.20	3.30	3.71	3.43	4.04	4.29	2.93	2.86	2.89	3.00
Order	B. C. A. D.				D. B. A. C.				D. A. C. B.				D. C. A. B.				D. A. C. B.			

EFFECTS OF FERTILIZERS ON THE ASH OF SORGHUM JUICES.

A small number of determinations (34) were made of the ash of various sorghum juices; it was originally intended to make a larger number of estimations for the purpose of showing the effect of these four fertilizers on the amount and composition of the ash in sorghum canes and juices. The pressure of other work and the limited number of assistants prevented the completion of the work, and the results here recorded are given for what they may be worth.

If these results are considered sufficiently numerous to warrant any conclusions, it appears that the amounts of ash are least with fertilizer A, and increase regularly in the order A, B, C, D.

It seems hardly safe, however, to draw any conclusions, and it is intended to present a much larger number of facts bearing upon this point in the next sugar report. We can safely infer, however, that the ash in sorghum juices does not vary greatly from 1 per cent.

The following are the results obtained:

TABLE No. 94.—*Effect of fertilizers on the ash.*

No of cane.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.	No. of cane.	Fertilizer A.	Fertilizer B.	Fertilizer C.	Fertilizer D.
1					22		1.46		
2					23				
3	1.13	.95	1.13	1.12	24				
4					25				
5					26		.98		
6					27			.85	.95
7	.90	1.66			28				
8					29				
9					30				
10	1.13	.93	.97	1.11	31				
11		.91			32				
12			1.52	1.55	33				
13			.84	1.00	34				
14			1.23	1.11	35				
15					36				
16	.91	1.03	1.08	1.05	37		.88		
17	.82	.88			10 (Dupl.)	.94	.88		
18		.88				5.83	12.59	8.71	9.01
19			1.09	1.12	No. estimations.	6	12	8	8
20		1.15			Average	.97	1.05	1.09	1.13
21									

COMPOSITION OF ASH OF CANES AND JUICES OF SORGHUM.

The actual composition of the pure ash, both of the whole cane and the expressed juice, are matters of interest and importance. From a careful study of the following figures it will be seen that the amount of potash extracted from the soil is much greater than the amount of any other ash ingredient, while the quantity of phosphoric acid is small. It would seem, then, that the farmer should supply these two constituents, when his soil seems to need them, in about the relative proportions in which they exist in the ash. The following are analyses of two lots of ash from sorghum, and two samples of ash from sorghum juices:

Analyses of ash from sorghum canes and juices.

Constituents.	Canes.		Juices.	
	No. 1.	No. 2.	No. 1.	No. 2.
Potash, K_2O	49.66	33.77	*55.31	*54 76
Potassium, K	4.31	14.58	.....	.....
Sodium, Na	.....	.....	Trace.	.07
Lime, Ca O	13.49	9.00	7.20	7.40
Magnesia, Mg O	10.47	10.28	6.36	7.85
Iron Oxide, Fe_2O_3	.....	.....	2.01	1.63
Silica, $Si O_2$	8.97	2.93	6.31	2.57
Sulphuric acid, $S O_3$	5.55	11.70	5.11	4.11
Phosphoric acid, P_2O_5	3.64	4.50	8.22	5.72
Chlorine, Cl	3.91	13.24	9.08	15.89
	100.00	100.00	100.00	100.00

* It was thought best in these analyses to state all the potassium as oxide, although, doubtless, a part existed in the juice in combination with chlorine.

TABLE No. 95.—*Statement showing the mean temperature and total rainfall recorded at the station of observation of the Signal Service, U. S. Army, at Washington, D. C., for each day from May 1 to November 30, 1880.*

[Compiled from the records on file at the office of the Chief Signal Officer.]

Day of the month.	May, 1880.		June, 1880.		July, 1880.		August, 1880.		September, 1880.		October, 1880.		November, 1880.	
	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.	Mean temperature.	Total rainfall.
	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*
1	52.7	.....	71.5	.16	73	.31	79.5	.....	74.7	.02	54.7	.....	46.2	.....
2	64.7	.....	57.2	.24	75.5	.04	82.2	—	72.2	.....	59	.....	50	.....
3	67.7	.....	66.2	.....	72.8	.....	75.5	1.01	81.7	.....	63.2	.....	51.5	—
4	67.2	.....	70.2	.....	75.5	.....	71.7	.97	83	.....	68.2	.28	57.5	.62
5	67	.....	71.2	.....	76.8	.18	67.7	.12	82.5	—	59.5	.48	63.2	.06
6	74.5	.....	75.7	.....	78	.....	70.5	.....	78.5	.10	61	.....	66.5	.16
7	66.1	.....	78.2	.....	80	.....	74	.....	68.5	1.26	51.5	.....	44.3	.07
8	71.5	.....	73.5	.....	80.5	.03	72.2	.....	61	.05	54.5	.....	45.3	.....
9	77.5	.....	67	.....	83	.03	76.2	.....	55.5	1.48	58.7	.....	47.3	.....
10	78	.....	67.7	.06	84.7	.....	77.5	.06	60.2	.....	62.5	.....	56.5	.43
11	73	1.40	79.7	.14	81.2	—	74.7	—	64.2	.....	66.7	.....	58.3	.15
12	68.5	.....	81	.23	82.5	.....	74.7	.....	67.2	.....	63.7	—	52.5	.....
13	59.7	.....	83.2	—	86.5	.....	74.7	.....	66	.36	54.2	.....	37.3	.01
14	54	.....	75.2	.03	83	.01	76.5	.12	58.5	.....	54.5	.....	37	.01
15	57	.....	61.7	2.28	79.2	.02	73	.18	59.7	.....	66.7	.....	36.5	.....
16	66.5	.....	63.5	.18	81.2	—	68.7	.....	65.7	.....	72.5	—	38.7	.....
17	76.5	.....	71.2	.....	78.5	.....	71	.....	72.5	.....	54.2	.23	43	.....
18	78.7	.....	73	.....	77.8	—	70.2	.05	74.2	.....	47	.....	35	—
19	72	.....	74	.....	79	.....	76.5	.13	74.5	.....	44.7	.....	29.2	.....
20	79.7	.....	75.2	.....	74.7	.23	79	.01	76.2	.....	50	.....	33.2	.09
21	76.7	.....	78.2	.....	72	—	81.5	.....	69.7	—	54.7	.....	30.7	.....
22	66.5	.70	81	.....	64.5	1.40	79.5	—	61.7	.....	56	.17	20.5	.....
23	66.5	.91	81.5	.....	71	.....	80.2	—	60	—	48	.20	22.5	.....
24	75	.....	85	.....	76.7	.....	82	—	63.5	.....	43.5	—	27.2	.....
25	82.5	.....	81.5	.10	76.2	.....	79.2	.65	67.7	.....	43.5	.....	30.7	.04
26	83.5	.....	79.7	.10	80.7	.....	68.7	.02	68.7	.....	54.7	.01	24.7	.17
27	82.2	.....	80.5	—	76.5	—	72.7	.....	74.2	.....	53	.03	29.7	.....
28	75	.04	83.5	—	72.6	.....	78	.....	61.5	.15	40	.23	32.7	.63
29	70.2	—	80.5	—	72	.....	79.2	.02	60.2	.....	46.5	.03	38.7	.....
30	72	.32	76.7	.....	72	.....	73	.25	53	.....	61	.65	33.7	.04
31	74.2	.....	.....	.....	75.7	.....	67.7	.11	.....	.....	50.7	.....	.....	.....

Statement showing the maximum and minimum temperatures from October 1 (date of first frost) to November 30, 1880; frosts since October 1, 1880; as recorded at the station of the Signal Service, U. S. A., in Washington, D. C.

[Compiled from the records on file at the office of the Chief Signal Officer, U. S. A., Washington, D. C.]

TEMPERATURE.

Day of month.	October, 1880.		November, 1880.		Day of month.	October, 1880.		November, 1880.	
	Max.	Min.	Max.	Min.		Max.	Min.	Max.	Min.
1	67	38.5	58	34.5	17	70	46	51	32
2	72	43	63	38	18	57	40	48	26
3	74	47.5	60	37	19	57	30.5	33	19
4	80	57	62	49	20	60	41	34	30
5	64	55	68	58	21	64	42.5	39.5	26
6	76	54.5	70	59	22	59.5	50	28	12.5
7	65	44	69	41	23	55	44	29	12.5
8	67	39	57	33	24	49	40	31	13
9	70	47.5	62	39	25	54	33	36	28
10	76	48	63	39	26	62	38	29	22
11	80	50.5	67	50	27	61	49	36	22
12	80	55	62	47	28	49	39	34	28
13	65	45.5	48	35	29	49	39	45	32.5
14	68	38.5	40	34	30	63	48	37	30
15	80.5	50	42	32	31	58	45	.....	.....
16	81.5	60	51	28					

Frosts (fall of 1880–'81).—October 1, 19, 25; November 1, 2, 3, 8, 9, 16.

*Heavy rainstorms May 1 to November 30, 1880, inclusive.**

Date.	Began.	Ended.	Amount.
			Inches.
May 11	4.34 p. m	6.05 p. m	1.40
June 14 to 16	8.25 p. m. 14th	8.10 a. m. 16th	2.46
July 22	6.10 a. m	4.10 p. m	1.37
August 3 to 4	4.20 p. m. 3d	8.50 p. m. 4th	1.89
September 6 to 7	8.35 p. m. 6th	5.00 a. m. 7th	1.34
September 8 to 9	6.15 a. m. 8th	10.00 p. m. 9th	1.53

*All rainstorms between the dates named in which the amount of precipitation exceeded one inch are here given.

WAR DEPARTMENT, OFFICE OF CHIEF SIGNAL OFFICER,
Washington, D. C., March 16, 1881.

TEMPERATURE AND RAINFALL FOR THE SEASON.

The above official record of the mean temperature and total daily rainfall has been added in order to show, more exactly than could be done by mere general statements, the conditions under which the canes here examined were grown. The following averages were drawn from these figures:

Month.	Average mean temperature.	Average daily rainfall.
		Inches.
May	70.8	0.11
June	74.8	0.12
July	77.2	0.07
August	75.1	0.12
September	67.9	0.11
October	55.4	0.07
November	40.7	0.08

It will be noticed that there were six days when the rainfall was so much in excess of the daily average as to indicate heavy storms. These days were

	Inches rainfall.
May 11	1.40
June 15	2.28
July 22	1.40
August 3	1.01
September 7	1.26
September 9	1.48

COMPARATIVE VALUE, DURING THE WORKING PERIOD, OF SORGHUM AND CORNSTALKS.

From the following table it is possible to judge quite accurately as to the comparative values of the different canes for the production of sugar. These values are applicable more especially to the latitude of Washington, and it will be seen later that certain canes which do not stand high in the list, when grown in this section, are very likely to prove valuable where the growing season is longer.

Again, those which mature quickest and also have a long working period are the ones especially recommended for culture in more northern latitudes.

In this table the canes are arranged in the order of their comparative value, as shown from the large number of analyses recorded. It must not be inferred, however, that it is possible to state positively that this order may not be somewhat modified by future experience; it certainly would be somewhat changed were any one characteristic of the juice used as the basis of comparison to the exclusion of all others. It has been attempted to give due weight to all the factors which tend to show the good or bad qualities of the canes.

Among the points which have the most direct bearing on the determination as to the value of any cane for any locality are the following:

1st. Other things being equal, that cane is best adapted to any locality which most quickly reaches the working stage, and longest continues workable. It will be noticed that, judged by this rule, the first eight varieties are superior to those that follow. It appears also, that these varieties matured in from 77 to 89 days, and continued workable from 87 to 107 days, or, on an average, over *three months*. It is very important to have sufficient time in which to work up the crop.

2d. The *average purity of the juice* is another very important consideration. This is shown by the column headed "average exponent"; by this term is meant the percentage of pure crystallizable sugar in the total solids of the juice. As has already been stated in the discussion of the table of specific gravities, the exponent should not fall below 70 for the best results.

3d. The *average available sugar in the juice* has very much to do with its value. The figures in this column were calculated by multiplying the figures in the column showing "average per cent. sucrose in juice" by the corresponding figures for "average exponent."

4th. The *pounds of juice per acre* has much to do with the amount of sugar that can be obtained.

As will be seen, the various canes do not differ very materially in the percentage of juice they can furnish; hence, the pounds of juice per acre depends more directly upon the number and weight of canes which can be raised. By reference to the tables for each variety, it will be

seen that several of the varieties standing low in this list (Honduras, Honey Top, &c.) furnish canes much heavier than those standing near the first of the list; hence, if an equal number of such heavy canes could be grown on an acre, the amount of juice must be correspondingly greater.

If, then, the quality of the juice from heavy canes is as good as that from the light, and the season for working is greater, the heavy canes would be preferable, because they would furnish the larger amount of sugar per acre. Unfortunately, this is not the case in this latitude. The first two columns in this table show that the heavier canes do not attain their full growth and maturity in time to be worked up into sugar.

It is fully believed that these heavy canes are well adapted to the more southern parts of the United States, and that in those regions they will reach full maturity in time to leave an ample working period. In fact, several examinations of canes sent from South Carolina a year ago confirm these statements.

If it be supposed, for sake of comparison, that an equal number of canes of each variety can be grown on an acre of land, the results given in the last three columns will show what amounts of stripped stalks, juice, and available sugar can be obtained on an acre from each variety of corn and sorghum. The number of stalks per acre has been placed at 24,000, which is believed to be a fair estimate.

In comparing these figures with those in the three columns just preceding them, which represent actual results of analyses, it will be seen that the figures do not differ greatly.

6th. After all, the real test of value for any cane is the amount of crystallizable sugar that can be actually separated from the juice obtained from the stalks grown on an acre. This amount will depend very greatly on the quantity and quality of the canes, and upon the promptness and care with which they are worked up after cutting. The figures here given in explanation of the various points which have been discussed have been derived from very carefully conducted work, and they are offered as fair statements of what can and should be attained by careful workers.

Among the essential points worthy of repetition are the following:

1st. Select a cane that matures quickly, and has as long a working period as possible.

2d. Do not work the cane too early; the seed should be well matured and quite hard, and the juice should have a specific gravity of 1.066 or higher.

3d. After cutting the canes, work them up without great delay. It is best to draw directly from the field to the mill as may be needed.

TABLE No. 96.—*Table showing the comparative value, during the working period, of all varieties of sorghum and cornstalks here examined.*

	Name.	Source of seed.	Number of days to maturity.	Number of days for working.	Number of analyses.	Average per cent. sucrose in juice.	Average per cent. glucose in juice.	Average per cent. other solids in juice.	Average exponent.	Average per cent. available sugar.	Average per cent. juice.	Actually obtained.			Computed at 24,000 stalks per acre.		
												Stripped stalks, per acre.	Juice, per acre.	Available sugar, per acre.	Stripped stalks, per acre.	Juice, per acre.	Available sugar, per acre.
	VARIETIES OF SORGHUM.											*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1	Early Amber	D. Smith	77	99	80	12.42	1.55	2.98	73.15	9.11	60.02	27,073	16,249	1,480	25,520	15,317	1,395
2	Early Amber	Plant Seed Company	80	99	70	12.00	1.51	3.18	71.72	8.67	61.33	29,808	18,281	1,585	24,480	15,023	1,302
3	Early Golden	A. B. Swain	86	104	76	11.47	1.76	3.09	70.24	8.12	60.03	24,611	14,774	1,200	24,480	14,695	1,352
4	Golden Sirup	W. H. Lytle	87	82	67	12.48	1.42	2.99	73.65	9.24	61.36	15,822	9,708	897	24,480	14,023	1,388
5	White Liberian	D. Smith	88	101	39	13.43	1.31	3.17	74.98	10.08	63.82	32,165	20,528	2,069	31,920	20,371	2,053
6	Early Amber	S. E. Evans	89	96	24	13.21	1.54	3.28	73.23	9.69	59.02	27,962	16,503	1,599	23,760	14,023	1,359
7	Black Top	D. W. Aiken	87	87	35	12.69	1.21	3.07	74.75	9.51	61.35	21,907	13,440	1,278	22,800	13,977	1,329
8	African	W. E. Parks	87	107	83	11.50	1.46	3.14	70.38	8.13	62.92	21,716	13,664	1,111	27,840	17,517	1,424
9	White Mammoth	Amos Carpenter	102	83	32	13.51	1.18	3.45	74.50	10.13	62.31	29,341	18,282	1,851	31,680	19,740	1,999
10	Oomseeana	Blymyer & Co.	115	77	54	12.16	1.49	3.07	72.43	8.81	64.15	19,522	12,523	1,103	27,840	17,859	1,573
11	Regular Sorgho	Blymyer & Co.	101	93	71	11.80	1.49	3.03	72.27	8.70	60.77	26,611	16,172	1,407	30,720	18,669	1,624
12	Hybrid	E. Link	101	84	30	14.24	.93	3.43	76.08	10.84	63.53	34,477	21,903	2,374	42,240	26,835	2,909
13	Sugar Cane	J. W. Barger	108	77	28	13.82	1.49	3.13	74.18	10.27	62.32	21,117	13,150	1,350	21,600	13,461	1,382
14	Oomseeana	D. W. Aiken	104	88	35	12.84	1.12	3.31	74.21	9.57	62.04	22,825	14,160	1,355	28,080	17,420	1,667
15	Neeazana	W. H. Lytle	136	58	38	13.16	1.93	3.18	72.13	9.48	61.58	23,467	14,451	1,360	26,400	16,257	1,441
16	Goose Neck	P. P. Ramsey	111	72	44	12.26	1.46	2.99	73.29	7.58	62.12	27,362	16,997	1,288	30,480	18,934	1,435
17	Early Orange	—— Hedges	117	79	53	13.18	1.58	3.39	72.45	9.56	61.67	48,758	30,669	2,875	35,520	21,903	2,094
18	Neeazana	Blymyer & Co.	129	65	46	13.45	1.95	3.11	72.77	9.78	60.52	20,156	12,198	1,193	25,200	15,241	1,491
19	New Variety	E. Link	108	84	31	12.84	1.19	3.35	73.93	9.50	65.22	30,731	20,042	1,904	28,320	18,470	1,755
20	Chinese	D. Smith	137	57	36	13.18	1.81	3.68	70.66	9.22	60.43	30,956	18,707	1,725	32,720	19,773	1,823
21	Wolf Tail	E. Link	118	56	21	11.72	1.23	2.98	71.87	8.65	62.09	31,493	19,554	1,691	30,960	19,223	1,663
22	Gray Top	H. C. Sealey	135	59	33	13.03	1.47	3.54	72.19	9.42	63.00	29,887	18,809	1,772	28,800	18,144	1,709
23	Liberian	Blymyer & Co.	131	38	22	13.18	2.05	3.22	71.23	9.39	62.02	45,580	28,269	2,654	45,120	27,983	2,628
24	Liberian	W. H. Lytle	134	48	36	12.92	2.09	3.37	70.31	9.08	62.56	44,913	28,088	2,550	44,400	27,777	2,522
25	Oomseeana	W. I. Mayes & Co	127	67	36	13.62	1.74	3.40	72.50	9.88	61.89	35,414	21,918	2,165	42,480	26,291	2,588
26	Sumac	W. Pope	152	31	14	14.24	1.67	4.18	70.82	10.09	60.15	39,919	24,011	2,423	39,360	23,675	2,389
27	Mastodon	D. W. Aiken	128	60	23	11.24	1.68	3.03	69.93	7.95	64.27	20,413	13,119	1,043	47,760	30,695	2,440
28	Imphee	D. W. Aiken	155	37	9	14.21	1.76	3.61	72.56	10.31	61.67	37,031	22,837	2,354	37,920	23,385	2,411
29	New Variety	J. W. H. Sallo	172	7	5	13.99	2.02	3.73	70.88	9.92	58.57	26,090	15,287	1,516	25,920	15,181	1,506
30	Sumac	J. H. Wighton	168	20	6	14.40	1.80	3.40	73.53	10.58	60.84	39,815	24,223	2,563	36,960	22,486	2,388
31	Honduras	Arsenal	148	29	27	10.32	2.26	3.09	65.76	6.81	57.09	25,335	14,464	985	29,760	16,990	1,157

32	Honey Cane†	J. H. Clark	133	43	21	10.80	2.56	2.51	67.76	7.37	65.08	50,017	30,301	2,233	53,760	34,987	2,579
33	Sprangle Top*	W. Pope	153	38	20	11.21	2.61	2.94	66.79	7.51	65.91	46,634	30,736	2,308	44,880	29,580	2,221
34	Honduras	E. Link	157	10	4	12.83	1.80	2.95	72.98	10.06	65.06	45,695	29,729	2,991	50,740	33,011	3,321
35	Honey Top, or Texas Cane*	Brussels, Mo	163	20	7	12.98	2.11	3.92	66.27	8.86	64.68	47,246	30,559	2,708	51,220	33,129	2,939
36	Honduras*	L. Brande	164	22	7	11.67	2.03	3.22	69.00	8.06	66.59	46,421	27,912	2,250	51,840	34,510	2,782
37	Sugar Cane*	C. E. Miller	99	8	6	8.84	2.37	2.32	65.39	5.79	64.60	13,839	8,940	518	17,280	11,163	649
38	Hybrid	J. C. Moore	------	-----	---	------	------	------	------	------	------	------	------	------	------	------	------
	VARIETIES OF CORN.																
39	Rice or Egyptian	Root & Hollingsworth	------	----	4	11.77	.59	3.90	72.32	7.51	42.41	18,497	7,845	589	10,320	4,377	329
40	Doura Corn		------	------	3	12.75	1.97	3.87	68.59	8.75	43.56	39,900	17,380	1,521	22,080	9,618	842
41	Stowell's Evergreen	W. R. Shelmire	------	------	5	10.92	1.05	3.26	71.70	7.83	55.30	8,835	4,886	383	14,640	7,975	624
42	Egyptian Sugar	W. R. Shelmire	------	------	5	10.38	1.55	2.82	70.37	7.30	58.14	14,084	8,188	598	23,280	13,540	983
43	Lindsay's Horse Tooth	A. H. Lindsay	------	-----	7	11.55	.94	3.53	72.10	8.33	57.58	24,753	14,253	1,187	41,040	23,631	1,968
44	White Flat Dent, 8-rowed	Washington Market	------	------	6	10.80	.88	2.96	73.77	7.97	59.68	22,256	13,282	1,059	36,720	21,914	1,747
45	Improved Prolific	James M. Thorburn & Co.	------	------	5	10.47	.80	3.72	69.85	7.31	57.51	21,562	12,400	906	35,560	20,451	1,495
46	White Dent	Thomas L. Jones	------	------	6	11.08	1.15	3.04	72.56	8.04	55.99	21,929	12,270	986	36,240	20,291	1,631
45	Sanford Corn	F. B. Hatheway	------	-----	5	9.33	1.12	3.51	66.85	6.24	47.63	6,187	2,947	184	10,320	4,915	307
48	Mammoth Dent	M. J. Varney	------	-----	7	10.86	.85	3.81	69.96	7.64	53.54	15,642	8,375	640	25,920	13,878	1,060
49	Early Minn. Dent	M. J. Varney	------	------	3	10.92	1.08	4.75	65.20	7.12	36.15	4,278	1,546	110	6,960	2,516	179

* The juices of these five canes did not reach the exponent 70. (see remarks later).
† The juice of this cane in some cases reached an exponent above 70., but did not average it (see remarks later.)

ANALYSES OF SIRUPS AND SUGARS RECEIVED FROM ABROAD.

The analyses which follow were made for the benefit of various persons who have experimented, usually in the small way, on the production of sorghum sugar and sirups. On the whole the results are good, when it is considered that these are, in most cases, first attempts, made under unfavorable circumstances, with improvised apparatus, and frequently without sufficient attention to details.

Some sirups were slightly scorched, and others were impure from lack of proper defecation of the juice. Still other samples were dark colored from use of too much lime.

Notwithstanding these defects, many other sirups were of light color, pleasant, maple-like flavor, and high content of crystallizable sugar, and a goodly number had crystallized nicely.

In several cases these crystals were separated, and samples sent to the makers; and, in every case where it seemed necessary, letters of advice have been sent to the parties who forwarded the samples.

TABLE No. 97.—*Sorghum Sirups and Sugars received from abroad.*

Sender.	Date.	No. of analysis.	Glucose.	Sucrose.	Polarization.	Water.
SORGHUM SIRUPS.			*Per cent.*	*Per cent.*		
William P. Wheeler, Chittenango, N. Y.	Sept. 17	2069	7.05	55.05	.....	.....
H. F. Tobey, Little Hocking, Ohio	Nov. 1	3366	10.00	60.80	.....	.....
E. Keyser, Thoroughfare, Va	Nov. 1	3362	10.35	60.46	.....	.....
M. P. Ayres, Jacksonville, Ill	Oct. 4	2731	10.70	61.84	.....	.....
William P. Wheeler, Chittenango, N. Y.	Oct. 26	3260	14.00	67.44	58.3	.....
R. Z. Wise, Middlebranch, Ohio	Oct. 26	3256	16.90	75.52	.....	.....
Do	Oct. 26	3257	16.60	70.48	.....	.....
William P. Wheeler, Chittenango, N. Y.	Nov. 16	3546	13.00	52.82	51.8	.....
M. P. Ayres, Jacksonville, Ill	Oct. 4	2732	14.60	56.42	.....	.....
Rev. George B. Beecher, Hillsborough, Ohio	Oct. 22	3160	14.00	53.20	.....	.....
William P. Wheeler, Chittenango, N. Y.	Oct. 26	3259	16.50	59.38	48.6	.....
Do	Oct. 16	3096	17.15	56.48	54.2	.....
R. Z. Wise, Middlebranch, Ohio	Oct. 26	3255	22.20	70.48	56.7	.....
Rush G. Leaming, Decatur, Nebr	Feb. 28	3601	16.20	50.74	.....	.....
Do	Feb. 28	3600	16.65	51.54	.....	.....
Rev. George B. Beecher, Hillsborough, Ohio	Oct. 8	2860	19.10	53.10	.....	6.80
R. H. Phelps, Hartford, Conn	.....	3590	11.60	31.73	.....	.....
William P. Wheeler, Chittenango, N. Y.	Nov. 1	3365	14.75	58.74	.....	.....
W. J. Sharpe, Baton Rouge, La	.....	3588	18.00	48.20	.....	.....
William P. Wheeler, Chittenango, N. Y.	Sept. 21	2250	20.40	47.12	.....	9.07
W. M. Meigs, Tippecanoe County, Ind	Sept. 20	2150	21.50	45.12	.....	.....
Rev. George B. Beecher, Hillsborough, Ohio	Oct. 20	2380	23.80	51.35	.....	.....
William P. Wheeler, Chittenango, N. Y.	Sept. 27	2590	22.40	47.50	.....	.....
R. Z. Wise, Middlebranch, Ohio	Oct. 26	3258	32.00	56.04	45.4	.....
T. S. Gold, West Cornwall, Conn	.....	3587	22.30	38.00	.....	.....
Rev. George B. Beecher, Hillsborough, Ohio	Oct. 20	3138	21.07	34.45	.....	.....
E. Keyser, Thoroughfare, Va	Nov. 1	3363	16.85	38.14	.....	.....
W. M. Meigs, Tippecanoe County, Ind	Sept. 20	2151	28.50	41.80	.....	.....
E. Keyser, Thoroughfare, Va	Nov. 1	3364	28.35	37.66	.....	.....
A. G. Richmond, Canajoharie, N. Y	Oct. 2	2730	29.00	36.86	.....	.....
Drummond Bros., Warrensburg, Mo*	Dec. 8	3596	29.00	35.40	.....	.....
A. G. Richmond, Canajoharie, N. Y	Sept. 3	1640	29.09	35.87	.....	.....
Rev. George B. Beecher, Hillsborough, Ohio	Oct. 22	3161	24.61	27.27	.....	.....
A. G. Richmond, Canajoharie, N. Y	Sept. 27	2591	35.40	33.80	.....	.....
Drummond Bros., Warrensburg, Mo*	Dec. 8	3598	35.00	32.10	.....	.....
A. G. Richmond, Canajoharie, N. Y	Sept. 22	2300	36.80	33.44	.....	.....
Drummond Bros., Warrensburg, Mo*	Dec. 8	3597	50.35	13.50	.....	.....
Hon. W. S. Steele, Rockingham, N. C	Dec. 31	3582	.....	.....	46.0	.....
Hon. D. W. Aiken, Cokesbury, S. C	.....	3593	.....	.....	34.5	.....
Do	.....	3594	.....	.....	30.9	.....
W. R. Andrews, Willimantic, Conn	Jan. 6	3586	.....	.....	23.6	.....
Hon. D. W. Aiken, Cokesbury, S. C	.....	3595	.....	.....	21.2	.....
Do	.....	3592	.....	.....	16.2	.....
K. E. Randell, Prospect, Ohio						
SORGHUM SUGARS.						
	Dec. 31	3583	.....	.....	12.0	.....
William Hall, Centreville, Mich	Sept. 9	1899	.90	85.88	.....	.....
——— ———, New Ulm, Minn	Sept. 9	1900	2.50	87.40	.....	.....
Drummond Bros., Warrensburg, Mo†	Dec. 8	3599	10.80	59.40	.....	.....
Captain Blakesley, Saint Paul, Minn	.....	3585	.....	.....	96.00	.....

* These sirups were made without defecation of the juice, and contained considerable gum and other impurities.

† This sugar was quite gummy.

UTILIZATION OF WASTE PRODUCTS.

The utilization of the by-products will tend to cheapen the production of sugar, hence it has seemed best to point out some uses of the substances which are most likely to prove of value.

The *molasses*, even after two crops of sugar have been separated, is usually sufficiently sweet and palatable to command a ready sale at profitable prices; if, however, too much lime has been added in defecation, or too high a heat has been employed in evaporation, the molasses will have a dark color; it is still valuable for the manufacture of alcohol or vinegar, through fermentation, induced by ordinary yeast. Both alcohol and good vinegar have been made at this department, by simply diluting the molasses, adding yeast, and setting in a warm room. The alcohol can be readily separated by distillation at low heat; the vinegar is produced in the same manner as cider vinegar.

The *bagasse* is a valuable fodder, being sweeter than ordinary grasses and sufficiently nutritious. A good article of *paper pulp* has been made from this bagasse by the usual methods employed by paper makers.

A determination of the proximate constituents of the dried leaves, stalks, and bagasse is given below, from which it will appear that there still remains a large amount of sugar in the bagasse which the process employed failed to remove from the cane or stalks, also that the per cent. of starch compounds is greater in the pressed than in the unpressed stalks, and that the percentage of nitrogenous matter remains nearly the same. Since the nutritive value of the pressed stalks is nearly if not quite equal to that of the unpressed stalks, weight for weight, and as they are left in a mechanical condition suitable for their preservation as green fodder by the system of ensilage, it would appear desirable that experiments be made leading to their utilization for this purpose.

Proximate analyses of stalks, bagasse, and leaves of sweet corn and sorghum, calculated to the dry substance.

	Unpressed stalks, Early Amber sorghum.	Unpressed stalks, Honduras sorghum.	Unpressed stalks, Egyptian sugar-corn.	Bagasse of Early Amber sorghum.	Bagasse of Honduras sorghum.	Bagasse of Egyptian sugar-corn.	Leaves of Early Amber sorghum.	Leaves of Honduras sorghum.	Leaves of Egyptian sugar-corn.
Organic acid, chlorophyll, color.	7.36	5.39	2.85	1.47	2.01	1.11	1.46	3.29	1.48
Wax	.94	.33	.44	.35	.84	.40	5.05	1.67	.54
Brown resin	6.98	6.00	8.11	5.11	3.53	5.75	7.91	6.67	5.20
Sugars	34.73	38.14	26.01	19.36	21.77	10.08	8.58	9.37	8.21
Gum	2.14	1.57	1.38	2.04	2.20	1.33	3.82	2.78	4.54
Starch isomers	20.34	17.67	22.44	31.46	26.27	23.16	14.49	21.22	24.77
Albuminoids	4.95	4.81	6.90	3.96	3.87	6.04	13.14	10.43	11.34
Alkali extract, by difference.	.....	5.15	6.09	13.35	15.10	22.26	12.08	11.98	12.65
Crude fiber	16.01	16.48	19.82	19.10	20.66	25.00	17.98	18.51	20.83
Ash, by ignition	6.55	4.46	5.96	3.80	3.75	4.87	15.49	14.08	10.44
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The *leaves* which are removed in stripping the stalks make an excellent green fodder, much relished by stock.

The *seeds* furnish good food for farm animals. Proximate analyses have been made of the seed of two varieties of sorghum, the Early Amber and the Chinese, the results of which are given below. It will be seen that this seed differs but little in composition from the other cereals, and

closely resembles corn, and it will doubtless prove valuable as food for farm stock.

Seeds deprived of hulls.	Sorghum seeds.	
	Early Amber.	Chinese.
Moisture	10.57	9.93
Ash	1.81	1.47
Fat	4.60	3.95
Sugars	1.91	2.70
Albumen, insoluble in alcohol	2.64	2.64
Albumen, soluble in alcohol	7.34	6.90
Gum	1.10	.72
Starch, color, &c	68.55	70.17
Crude fiber	1.48	1.52
	100.00	100.00

It has been reported that sorghum seeds contain considerable tannin, which makes them less valuable as food. We believe that it will be found that the tannin is not present in the seeds themselves (certainly not in the seeds of many varieties), but in the hulls which inclose these seeds. These hulls are very readily separated from some varieties of sorghum seeds (as the White Mammoth, &c.), and with more difficulty from others. This question will be investigated later.

The *skimmings and lime precipitates* from the defecated juices will doubtless be valuable sources of nitrogen for fertilizing purposes, as they contain considerable amounts of nitrogenous substances in mixture with caustic lime and organic salts of lime.

Proximate analyses have also been made of the scum and sediment obtained in defecating the juice, with a view of throwing light upon the chemical character of this important process.

The results of these analyses are given below.

	Liberian lime precipitate.	Honduras lime precipitate.	Honduras skimmings
Moisture	9.77	7.69	5.72
Ash	21.69	7.00	14.30
Chlorophyll and wax	17.60	8.95	14.44
Sugars and amides	10.80	43.96	15.06
Resins and trace albumen	3.61	3.26	5.08
Gum	6.02	11.40	11.10
Albuminoids	22.58	4.55	8.05
Humus-like substances, diff	5.73	12.71	5.58
Crude fiber	2.20	.48	5.49
Starch isomers	Trace.	Trace.	15.18
	100.00	100.00	100.00

The large amount of ash in Liberian lime precipitate and Honduras skimmings is due to the presence of considerable clay, which had been used to hasten the clarification of the juice. There was little or no clay present in Honduras lime precipitate. The claying seems mechanically to have carried down a large proportion of the albumen in the Liberian lime precipitate.

The very great difference in these waste products is probably due almost wholly to differences in the manipulation of the juices.

The *skimmings*, obtained later in the clarification of the sirup, consist largely of sugar, together with some nitrogenous substances. When diluted with water, treated with yeast, and fermented in a warm place, they have actually furnished very excellent alcohol and vinegar.

It should always be remembered that with this crop, as well as with all others, it is wise for the farmer to return as much as possible to the soil

in the form of manure. If, then, he can utilize these waste products in the feeding of stock and the production of stable manure and compost, the land will be much less rapidly exhausted. In case it is not practicable to feed the bagasse, it furnishes, when dried, an excellent fuel for use in evaporation of the sorghum juices. The ashes thus produced should be carefully protected, under cover, from the action of rain, and should be again returned to the soil.

While it is true that sugar is formed from atmospheric substances (*i.e.*, the water and carbonic acid in the atmosphere and soil), it is equally true that the sorghum plant cannot develop unless the soil can furnish proper amounts of ash ingredients and nitrogenous substances. Hence too great attention cannot be given to the proper maintenance of fertility in the soil. Certainly many soils may produce a considerable number of good crops without any additions of fertilizing materials, but the ultimate exhaustion of such soils by failure to replace the mineral matters removed by crops is certain, and only a matter of time. We have in this country thousands of acres of land, originally good, which have been rendered almost sterile by this slipshod kind of farming, and it is time that more attention was given to this simple truth that *the soil must furnish proper food to the plant, just as the farmer must furnish proper food to his animals.* The failure to furnish suitable plant food in proper amount will result either in entire or partial failure of the crop.

CONCLUSION.

In conclusion we would say that the results this year, obtained from the very large number of analyses that have been made, fully confirm and greatly strengthen the belief that the economical production of sugar from the juice of sorghum is both possible and exceedingly probable. We recognize the fact that this new industry has very much of conservatism to contend with, and that there are inherent difficulties to be overcome, but we also know that this statement is equally true for all other great manufacturing operations. History shows that the establishment of the beet-sugar industry in France and Germany was the outcome of not one year, but twenty years, of careful scientific work. Many experiments proved failures, and many men were found who said from the first that the manufacture of sugar from beets was a commercial impossibility.

But in spite of adverse criticisms, partial failures, and the opposition of many interested parties, the beet-sugar industry did succeed, and to-day two-fifths of the sugar consumed by the civilized world is manufactured, at a profit, from sugar beets.

We believe that the chances for the success of sugar production from sorghum are better than were the prospects of the beet-sugar industry.

It must not be supposed, however, that all the practical questions arising in this connection have been, or even soon can be, solved. The development of a great industry is sure to bring to light many important questions bearing on the cheapening and simplification of manufacturing processes, and money is well spent for the honest and painstaking study of such questions.

We believe it to be a wise and enlightened policy for this government to encourage the thorough scientific investigation of these great economic questions, which have so much to do with the financial prosperity of the country.

Very respectfully,

PETER COLLIER,
Chemist.

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